INDO-EUROPEAN GRAMMAR

Volume III. MORPHOLOGY

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PART ONE.

A HISTORY OF INDO-EUROPEAN VERB INFLEXION

[English-language version]
August, 1967

To my teachers

E. BENVENISTE

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Preface

It is a pleasant duty to express my gratitude to the Center for Advanced Study in the Behavioral Sciences in Stanford, California, and to its then Director, Ralph W. Tyler, for the grant of a Fellowship for the academic year 1966-1967. Without the unique conditions for scholarly work provided by the Center, this book could scarcely have been completed within that period. I am also indebted to the National Science Foundation for their generous financial support during the year.

My debt to coworkers in the field, both in Europe and America, should be apparent on every page. To many of them I am particularly grateful for their courteous sending of publications, as well as for placing unpublished studies at my disposal. To all these colleagues I express my heartfelt thanks.

To four scholars in General and Indo-European Linguistics and Philology my debt is far older, and far deeper. I must claim in my turn that 'no student was ever so fortunate in his teachers'. May they accept this work, in the profoundest tradition of Indo-European society, as an ἀντίδωρον.

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ALL: Archiv für lateinische Lexikographie u. Grammatik

Anc. IE Dial.: Ancient Indo-European Dialects, ed. H. Birnbaum and J. Puhvel (1966)

Arch. Ling.: Archivum Linguisticum

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BPTJ: Biuletyn Polskiego Towarzystwa Językoznawczego

Brugmann, Grdr.^{2}: Grundriss d. vergl. Gramm. d. idg. Spr.^{2} (1897-1916)

Brugmann, Gr. Gr.^{4}: Griechische Grammatik^{4}, bearb. von A. Thumb (1913)

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Celt(ic) V(er)b: see Watkins

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GGA: Göttingische Gelehrte Anzeigen

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HSCP: Harvard Studies in Classical Philology

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IF: Indogermanische Forschungen

IIJ: Indo-Iranian Journal

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JAOS: Journal of the American Oriental Society

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JKlF: Jahrbuch für Kleinasiatische Forschung

J(our.) Psych.: Journal de Psychologie

Kl. Schr.: Kleine Schriften

Krat.: Kratylos

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Lg.: Language

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MSS: Münchene Studien zur Sprachwissenschaft

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NTS: Norsk Tidsskrift for Sprogvidenskap

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REIE: Revue des Études Indo-Européenes

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Rh. M.: Rheinisches Museum für Philologie

RIA Contrib.: Royal Irish Academy Contributions to a dict. of the Irish lang.

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ZDMG: Zeitschrift der Deutschen Morgenländischen Gesellschaft

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I. Introduction

> La grammaire comparée doit se faire en utilisant les anomalies--c'est à dire les survivances--bien plus que les formes régulières... Les traités de grammaire comparée ont souffert de ce que, pour la restitution de l'état initiale, l'importance attribuée aux formes normales des états de langue historiques est trop grande.
>
> Meillet

A grammar of Indo-European must take account of certain realities. The first is naturally that in dealing with an unattested, reconstructed language we must operate by inference, and not by direct observation of speech or written text. The consequence is that a description of that reconstructed language must be necessarily far from complete. One must have no illusions on this matter; even after a hundred and fifty years of steady progress of the comparative method and the establishment of Indo-European grammar, we are still not capable of reconstructing a single well-made Indo-European sentence of the most trivial complexity. Reconstructions of sentences are of course not our aim, but to a lesser degree the same indeterminacy is to be found in most parts of the grammar of Indo-European.

The second is that a grammar of a reconstructed language

cannot be synchronic. It cannot describe an état de langue at any given time or place. One may establish a relative chronology of individual reconstructed features of the grammar, for example, and one may plausibly point out evidence of prehistoric dialectal cleavage. But the association of one reconstructed feature of the grammar with another, and so on such as to form eventually the picture of a total linguistic system, is beyond our powers. Indo-European, and any other reconstructed language, can refer only to a set of linguistic states in a temporal (and spatial) continuum.

The third point is the most important: that the reconstruction of Indo-European, i.e., the establishment of the grammar of that language to the best of our ability, is not our fundamental object, as it is in the writing of a normal descriptive grammar. Rather that ultimate aim is the writing of linguistic history--faire l'histoire des langues: the history of languages known to us. We are seeking a historical explanation for the facts of the grammar of languages accessible to us by observation or from written texts. Reconstruction from comparison, both external and internal, up to and including the unrealistic goal of the complete restoration of the grammar of an antecedent common language, is only a tool. It is a means to the end, which is linguistic history.

Even if we were by some miracle handed a complete grammar of Common Indo-European as spoken somewhere in (say) 4500 B.C.--the date is meaningless--the work of the Indo-Europeanist would

scarcely be done. Rather it would have just begun. For his task would be then as before to relate the facts vouchsafed him to the facts of the attested languages; to construct hypotheses, and to demonstrate precisely how it was possible within a linguistic tradition or traditions to pass from the system at one point in time to the systems at a later point. The position of the Romance specialist offers a clear analogue.

But we are in fact not vouchsafed this Indo-European grammar, and must operate by inference from the attested languages to restore a common prototype; this prototype itself serves only as a means toward establishing the history of these same attested languages. Historical linguistics and comparative grammar is necessarily a dialectic. Considering this fact, and the constraints we have noted, it is clear that a far more discursive approach than that in the ordinary descriptive grammar is not merely advisable but mandatory in writing a grammar of Indo-European. Discursive treatment is that best suited to the writing of history, which is our ultimate goal.

Consider an illustration. That one can demonstrate that in the earliest Common Indo-European the 3 sg. in all inflexional types was characterized by an ending zero, is in itself neither very remarkable, nor very interesting. From the point of view of linguistic typology, reconstructed Indo-European merely becomes another cipher in a list of languages sharing the same feature, a list which could well include representatives of most of most of the linguistic families in the world. Rather it is the specific

consequences of this fact of Indo-European grammar which are of interest to us: the modalities of the replacement of zero by an overt ending, and the eventual elimination of the zero-ending. These alone provide the key to the prehistoric transformations of certain paradigmatic structures in languages known to us: they permit us to assign a relative age to different synchronic features in these languages, to state that a is more archaic than b, and to explain why a is preserved in the particular place in the system it occupies. All these historical explanations-- which must be discursively elaborated-- are permitted by the reconstruction of zero; but in and of itself that zero is practically devoid of interest.

An exposition of the technique and methodology of historical linguistic analysis here followed--which is traditional in the fullest sense-- may be found in the Prolegomena to my Celtic Verb. In conformity with the dialectic character of Indo-European studies, at any level, I have tried to weigh the linguistic evidence afresh, and to provide a coherent explanation for it. I have not hesitated either to accept or to reject previous explanations, mindful of what one of my teachers once said of a well-known handbook: that the cause of scholarship is not served by taking the "middle" position between two mutually exclusive hypotheses.

I have not hesitated to introduce new data, and to make new equations, whereby to broaden the basis of the enquiry. And following the principle of Meillet quoted at the outset, I have

further tried to focus attention on the anomalous forms to be found in all Indo-European languages, which are *eo ipso* archaisms, and to integrate them into the historical exposition. I have not infrequently had recourse to textual citations, from a conviction that even in morphology the particular value of a form can be appreciated only in its context. Such aspects as the position of a form in a verse line, its attestation in a repeated formula, even the genre of the source text—in short, philological evidence—may in themselves be an index of linguistic archaism.

As the first part of volume III of the Indo-European Grammar, the present work presupposes a degree of familiarity with the main lines of the historical phonology of the Indo-European languages, with the basic facts of Indo-European apophony and accentuation, and the fundamental principles of morphology. Broadly speaking, morphology may be defined as the formal expression of the syntactic rules of a language.

The structure of the Indo-European inflected word may be symbolized as *root* + *suffix* (or suffixes) + *desinence* (ending), *R* + *S* + *D*. The traditional domains of Indo-European morphology are inflexion, derivation, and composition. Derivation, and composition which is a special case thereof, more directly a function of syntax, are concerned with the formation of inflectable stems (*R* + *S*); inflexion is concerned with *D*. Yet the demarcation between stem-formation and inflexion is a fluid one, rather more so than the traditional presentations of Indo-European morphology would lead us to suppose.

I have chosen to begin with verb inflexion, for reasons to be discussed below. Of necessity, this procedure presupposes some familiarity with the basic facts of Indo-European verbal stem-formation. For these the reader may be referred above all to Meillet's unsurpassed Introduction à l'étude comparative des langues indo-européennes. Though the first edition of this work appeared in 1903 and the eighth in 1937 just after Meillet's death, it remains the finest introduction to the subject. The work, as indeed the whole of Meillet's œuvre, may be most succinctly characterized by his own appreciation of a distinguished predecessor in Avestan studies: 'une sûreté de méthode où la force du bon sens touche au génie.'

The finite verb is the fundamental member of the Indo-European sentence, since it incorporates an explicit subject in the person as well as the predicate: it is a sentence in microcosm. Beside the minimal verbal sentence like Latin ueni 'I came' or uenit 'he came', the minimal nominal sentence like Latin fas 'it is right' shows a reduced structure, in that it is restricted to the third person, with a dummy subject. In Indo-European we have a language family characterized in its older historical stages by what all typologists recognize as a relatively rich inflexion, above all in the verb. This suggests that a treatment of Indo-European morphology should begin with the verb, as was always Meillet's practice, but further begin with verb inflection: the "external", word-final expression of the primary grammatical categories of person, number, and diathesis ('voice')

specified by the finite verbal form in the sentence. In beginning verb morphology with inflexion I follow a well-established tradition, which may be exemplified by the Indo-European grammars of Schleicher and Hirt, or the grammars of individual languages of Schwyzer and Leumann.

Yet a major difference between this and earlier treatments of Indo-European grammar is the amount of space given over to the question of verb inflexion. Scanning Indo-European grammars over the last century, we can observe that Schleicher's Grammatik[4] accords the verbal endings 45 pp.; Brugmann's monumental Grundriss[2], 94 pp., but the KVG only 10 pp.; Meillet's Introduction[8], 10 pp.; Hirt's Indogerm. Gramm., 61 pp., of which 25 are given over to the 'etymology' of the endings; Pisani's Glottologia indocur.[3], 7 pp.

The justification for the extended treatment here is simply that the subject requires it; the development of paradigmatic categories is not to be dismissed in a handful of pages. The boundary between derivation and inflection is historically a shifting one, and far more often than usually recognized, the development and even genesis of a derivational category in the verb can only be understood in terms of the historical development of the inflexional pattern. In order to account for the Indo-European conjugational system as a whole, we must first explore in detail the inflexional system in the verb, and trace its historical development. In this procedure I can claim an illustrious precedent: Franz Bopp's Ueber das Conjugationssystem der Sanskritsprache, in Vergleichung

mit jenem der griechischen, lateinischen, persischen und germanischen Sprache of 1816, with which the comparative method was born.

The history of Indo-European studies is primarily a refinement of our understanding of stem-formation. Already in the beginnings of Indo-European comparative grammar the principal stem and suffix types were clear. They were in fact given by the Hindu grammarians for Sanskrit, and it was a relatively simple problem—once posed—to isolate the immediately corresponding categories in the European languages. The proper formulation of the role of vowel-apophony as a morphophonemic device in verbal and nominal derivations is the great contribution of Saussure's Mémoire. His analysis of the vowel system, and the postulation of the famous 'coefficients sonantiques', follow as an inexorable consequence of the total system of root and suffix morphophonemics which he demonstrated. Saussure's picture is basically the Indo-European of today. We have made enormous strides in our understanding of the structure of the root, of archaic noun-formation, of the role of apophony and accent and their manifestations in the individual languages, and above all in linguistic theory, to which Indo-European studies are subordinate. But the derivational categories of Indo-European remain much as they were described in 1878.

In verb inflexion the tradition is even older. Our view of the desinences, as ordinarily presented in the handbooks, is remarkably similar to that of Bopp a century and a half ago, leaving aside his concern to show their pronominal origin. Just

as in the verbal stem classes, it is basically the Sanskrit picture.

Yet a confrontation of the normal thematic presents of the two most familiar ancient Indo-European languages, Latin and Greek, shows two paradigms which cannot be reduced to a common original. While the Latin system agrees with that of Sanskrit, Greek does so only at the price of ad hoc rules. The forms of Greek bear a certain similarity to those of other languages which likewise do not conform to the Sanskrit picture, as Meillet saw, but the comparisons have not been systematized.

We have no choice but to assume that the inflexional patterns of all the languages of the family, in one way or another, directly or indirectly, continue a Common Indo-European type. In order to account for all the data of all the languages, one technique alone is open to us. It is necessary to develop a simple and consistent hypothesis of the inflexional system in the common language, and to verify that hypothesis in each of the branches of the family. I have had no compunction about presenting such a hypothesis in the present work. I can only echo the words of Chr. S. Stang, in the foreword to his new and indispensable Vergleichende Grammatik der baltischen Sprachen: 'Die Wissenschaft ist ein Dialog, und niemand von uns kann den Anspruch erheben, auf allen Punkten zu einem bleibenden Ergebnis zu gelangen. Aber was man vorlegt, wird ja kritisiert, andere melden vielleicht Widerspruch an. Mit Hilfe dieses unorganisierten teamworks schreitet die Wissenschaft fort. Daher sende ich diese Arbeit getrost aus, selbst wenn ich natürlich weiss, dass nicht alles,

was ich hier sage, richtig ist. Deshalb stelle ich gern Theorien auf. Ein Buch, das nur gesicherte Dinge enthält, wäre für die Mitforschenden überflüssig.'

Wherever it seemed advisable, I have had no hesitation in departing from the traditional view; there are no dogmas in scholarship. But as I have tried to show throughout, this 'novum organum' has its beginnings and its development in the basic traditions of Indo-European studies over the past century and a half. The version here advocated is a natural outgrowth thereof.

The book is meant to be read sequentially; each chapter builds on the results of those preceding. The aim of all, and of the book itself as a unity, remains the same: to reconstruct an internally consistent system of verb inflexion in Indo-European —un système où tout se tient— and to demonstrate as precisely as possible the manner in which this reconstruction permits a cogent historical explanation of the systems of verb inflexion in each of the earlier attested Indo-European languages.

II. The athematic conjugation

§1. The class of root athematic verbs in Common Indo-European is one of the uncontested results of the application of the comparative method. This inflexional type is characterized by an apophonic root (with full grade in the singular, zero-grade in the dual and plural), a zero suffix, and the primary personal endings -mi -si -ti, secondary -m -s -t, in the singular. The accent falls on the root in the singular, on the desinences in the dual and plural. Root forms with and without reduplication are found in this type; the inflexional pattern was originally the same in each.

Both active and middle paradigms occur, cf. Ved. éti 'goes', váste 'dresses', but it is characteristic of the athematic root verbs that the middle is relatively rare; cf. Renou, BSL 33.21 (1932). From the functional point of view, it is further characteristic that the verbs showing active root athematic conjugation are both transitive and intransitive, in comparable proportion: Ved. trans. átti 'eats', dvéṣṭi 'hates', ákar 'made', ádhāt 'put' beside intrans. éti 'goes', kṣéti 'dwells', ágan 'went', ásthāt 'stood'. The fact is doubtless connected with the rarity of the middle in this formation.

Of the root athematic verbs which are inflected in the middle voice in Indo-Iranian, it is noteworthy that by far the

greater number are media tantum, and accent the radical syllable (with full grade root) throughout the paradigm: cf. Whitney §628 for a partial list. While Sanskrit grammar prescribes zero-grade root with accent on the desinences as proper to all forms of the middle in the athematic type, the actual instances in the Rig-Veda are extremely limited; and when they do occur, as for example in pres. act. 3 sg. rédhi, 3 pl. rihánti beside mid. 3 pl. pres. rihaté, there is reason to suspect that the development is secondary, as here in the accent rihaté, not the prescribed riháte.

I shall take up the formation of the middle in connection with the thematic conjugation, for reasons which will become apparent there. The discussion in the present chapter will be limited to the athematic active formations.

§2. The root athematic type is on the decline virtually everywhere in Indo-European save Hittite. It is considerably more tenacious in the roots in long final vowel (from earlier short-vowel plus laryngeal) than in those in final consonant, TeT- and TeR(T)-. But all Indo-European languages attest the root *es- 'be, be really, exist', which in most of the languages comes to be the copula; cf. Benveniste, BSL 55.113-134 (1960) = Problèmes de linguistique générale 187 ff. The pardigm of the singular, with the primary endings, may be reconstructed as

*és-mi

*és-si or *ési with simplification of the geminate

*és-ti,

on the evidence of

Hitt. ešmi	Ved. ásmi	Gk. εἰμί
ešši	ási	εἶ (Hom. ἐσσι
eszi	ásti	ἐστί.

Hitt. -zi is regular from -ti; we have in fact once ešti in an Old Hittite text (KUB XXXVI 98c Rs. 5), probably with -ti not affricated to -zi after s, as also in Gk. ἐστί vs. φησί.

The plural may be reconstructed as follows:

*s-mé

*(é)s-te

*s-énti or *s-ónti,

compare Hitt. (pret. eš-wen)	Ved. s-más(i)	Gk. Ion. εἰμέν	
(ipv. eš-ten)	s-thá(na)	ἐστέ	
aš-anzi	s-ánti	Dor. ἐντι.	

It is apparent that that the divergence among the languages is significantly greater here. Only in the 3 pl. is the root apophony

ø : zero, *es- : *s- clearly preserved in several traditions : Dor. ἐντι replacing h-εντι, Goth. sind, Osc. sent, OIr. it < *s-enti, Lat. sunt and Hitt. (a)šanzi < *s-onti. The desinences will be taken up in detail below, as will be the question of the root vocalism in the 2 pl.

For a root of the structure TeR- we may take the verb 'to smite, kill' :

*g^{w}hén-mi	*g^{w}hn̥-mé
*g^{w}hén-si	*g^{w}h(é)n-te
*g^{w}hén-ti	*g^{w}hn-énti or g^{w}hn-ónti.

Compare Hitt.	kuemi	(pret. kuewen)
	kueši	(ipv. kuenten)
	kuenzi	kunanzi,

Ved.	hanmi	hanmas(i)
	hámsi	hathá (ipv. hantanā)
	hánti	ghnánti.

For the forms of the dual (where attested) in these and all subsequent paradigms see the Appendix to the present chapter.

§3. The various languages have in general partially or wholly leveled the original root apophony e : zero. Only the verb 'to be' in the third persons, tends to resist this pressure (cf. modern French, German, or Polish), by preserving the forms as synchronically unanalyzable units.

Hittite has replaced *es- : *s- by eš- : aš-, along with other roots in initial e: ed- : ad- 'eat' (*ed- cf. Gk. ἔδομαι), ek̑u- : aku- 'drink' (*ek^{w}- cf. West Toch. yoku 'I will drink' < *ek^{w}-o). The model was furnished by phonological regular cases like en : an <*en : *n̥, cf. wen-zi 'futuit' : iter. uwanšik- < *u̯n̥-sk-. The verb ep- : ap- 'grasp' may have played a mediating role, if correctly derived from *ēp- : *ap- (cf. Ved. āpnoti, Lat. coepi, aptus); but the root may be simply *ep-. Roots of the structure TeT- and TeR- have largely generalized the full grade in the plural, hence 1 pl. kuewen (< *kuenwen). Before vocalic ending in the 3 pl. the zero grade TR- is preserved, cf. kunanzi, kuranzi 'cut' : Ved. 3 pl. injunctive (mid.) kr-anta. In TeT- and ReT- roots we find full grade also in the 3 pl., cf. šešanzi 'sleep', wekanzi 'wish'; the last attests the Hittite elimation of samprasāraṇa Ablaut, cf. Ved. vā́śmi : uśánti. These apophonic reflections may be relatively late in Hittite, since beside šešanzi we have also šašanzi, and both wehanzi and wahanzi. The three forms šašanzi, wehanzi and wahanzi are in fact all from the same text (Hittite-Luvian Ištanuwa-ritual KUB XXV 37 IV 36, II 22, III 34, cf. Laroche, Dict. louv. 171 ff.), which

clearly demonstrates the hesitation. The TeRT- and TeR - roots in Hittite have universally adopted the zero-grade form, Hitt. TaRT-, TaRh-. For the mechanism see Kuryłowicz, Proc. VIII Ing. Cong. Ling. 227-228.

Indic preserves the e : zero apophony quite faithfully in TeR(T)- roots, but tends to generalize the full grade in TeT- roots, whence ádmi : adánzi. Archaic exceptions are precisely ásti : sánti, and aor. (á)ghas : (á)kṣan.

Greek basically preserves the original apophony only in the verbs εἶμι : ἴμεν, Dor. φᾱμί : Att. φᾰμέν, isolated long vowel aorist forms like Hom. βῆ : 3 du. βάτην, and the reduplicated type τίθημι : τίθεμεν. Athematic inflexion of roots in final consonant is represented only by isolated forms, which attest the prehistoric generalization of the full grade ⌢: ἔδοωσι, δέχαται, δέκτο, λέκτο. The same appears in the verb 'to be': Ion. εἰμέν, Dor. ἦμεν < *es-men (Att. ἐσμέν is analogical). The full grade is also found in the Mycenean 3 pl. e-e-si = e(h)-ensí, cf. Hom. ἔᾱσι; Dor. ἐντι, Att.-Ion. εἰσί < *s-enti is a residual conservation.

§4. Ulterior developments have given rise to subclasses of the root athematic verb in certain Indo-European dialects, with a partially divergent apophonic pattern involving a lengthened grade. Some scholars have attributed these types to Indo-European itself,

whereas in reality they represent separate innovations posterior to the common period. See especially Kuryłowicz, Apoph. 155 and 305-8. We have basically three groups of phenomena: (1) the Indo-Iranian type Ved. tā́ṣṭi = Av. tāšti; (2) the Indic type stáuti; and (3) the Balto-Slavic type Lith. bė́gu : Russ. beg'u (*bĕgǫ).

The first shows only a single example in Avestan, 3 sg. tāšti, but which is identical with Ved. tā́ṣṭi; Vedic shows the 3 pl. tákṣati, while no plural forms are attested in Iranian. We have thus an apophony ā : a beside the normal full grade : zero-grade of the root athematic verb, together with the further anomaly of the accent on the root in the plural, and the desinence -ati not -anti. This verb (I-Ir. root takš-) is unique in exhibiting all these features. Further 3 sg. forms are RV rā́ṣṭi 'rules', with no plural forms attested, and Br. śā́sti 'cuts', with 3 pl. Br., śā́sati, ipv. śā́satu. For the latter the RV has 2 pl. ipv. śásta, and pple. śastá- like taṣṭá- from takṣ-. We may assume an earlier *śā́sti 3 pl. *śásati, with the long vowel later spreading from the singular to the plural, just as in Avestan the ā of tāšti spread to the pple. tāšta- replacing earlier Gāth. tašta- = Ved. taṣṭá-.

The second is confined to Indic: Ved. stáuti, 3 pl. stuvánti, but Gāth. staomī, Av. staoiti with short diphthong. Similarly mā́ṛṣṭi (RV 1 sg. mā́rjmi) mṛjánti, and perhaps *kā́rṣṭi to kṛṣ (thematic kā́rṣati) attested by the derivative kā́rṣmaṇ- 'goal' (Kuryłowicz, Apoph. 155, cf. Debrunner, Ai. Gr. II 2.756). Beside Indic

márṣṭi younger Avestan shows both thematic marəzaiti and mərazaiti, the latter like the sixth class present amr̥jata found first in the AV. Both Avestan forms marza- and mr̥za- may be most simply derived by thematization from an earlier athematic verb with apophonic paradigm marz- : mr̥z- , i.e. with Iranian full grade in the singular, not lengthened grade as in Indic.

The other monosyllabic roots in final u have the same pattern as stauti, cf. Whitney §626. But it is characteristic that these lengthened grade presents are late in Vedic; barely attested in the RV, they are clearly an expanding class in subsequent Indic literature of the early period. There is but a single attestion of a long vowel present from a u-root in the older portions of the RV, 3 sg. inj. staut at verse end in 7.42.6; impf. astaut is found three times in Book X, and the present stauti, staumi, ipv. stautu, occurs first in the AV. Present kṣṇaumi occurs once in Book X of the RV. From yu- the RV present is the sixth class yuváte, passim; yaumi is found first in the AV. From su- 'impel' the RV has suváte; sauti in Br. From sku- RV has only the intensive coṣkūyáte; skauti ŚB. From snu- RV has no finite forms; snauti Br. The chronology is clear.

The apophonic relations ā : a of tā́ṣṭi tákṣati and ar : r̥ of mā́rṣṭi mr̥jánti are typical of vr̥ddhi both of the Indo-Iranian type and of the Indic type; the āu : u of stáuti stuvánti is characteristic of Indic alone. But the difference of accent and desinence of the type tā́ṣṭi tákṣati indicates that it should be separated from mā́rṣṭi

mṛjánti and stáuti stuvánti, which in turn together exhibit the the same Indic features.

Kuryłowicz, Apoph. 155-6, has explained the type mā́rṣṭi mṛjánti as due to a subordination to the (nascent and productive) tudáti class with which it shared certain forms (3 pl. tudánti like mṛjánti), and the development of a correlation lack of thematic vowel implying in the strong forms the full grade root. Whence after the new Indo-Iranian and Indic vṛddhi pattern, ṛ : ār replacing ṛ : ar. While this explanation is cogent, Kuryłowicz's further view that the type stáuti stuvánti is essentially unconnected, is not convincing. He argues that since stuvánti is phonologically u in hiatus, stu-ánti, the full grade is a + u in hiatus, whence by 'une contraction tardive', Ind. au. But the necessary implication that inherited Indo-Iranian disyllabic *stauti (= Av. staoiti) was first refashioned to trisyllabic *sta-uti and then contracted to Ind. stauti (with long diphthong) seems unacceptable. Were the explanation of stáuti stuvánti simply phonological, we would expect the same development in the aorist of roots in -u, whereas there the lengthening is not found. Cf. 3 pl. ipv. aor. śruvantu = śru-antu like stu-antu but 3 sg. ipv. aor. śrotu unlike stautu. The lengthening in the strong cases of the present along of the type stauti shows that it must be morphological.

It is preferable then to regard mā́rṣṭi and stáuti as the joint products of an Indic innovation, characterized by vṛddhi in the

strong forms of certain athematic roots with the structure TeRT- and TeR- (Teu-) present. In both cases the innovation is based on the subordination to the sixth (tudáti) class, as suggested by Kuryłowicz for mā́rṣṭi; note in particular the presence of RV sixth class yuváte, suváte beside later yauti, sauti.

§5. Kuryłowicz, loc. cit., is inclined to explain tā́ṣṭi in the way as mā́rṣṭi. But the earlier (Indo-Iranian) chronological level of the former, together with the difference of root structure (TeT-) and accent pattern, argues for their separation.

The simple fact of being a TeT- root is not sufficient to provoke the lengthening in the strong forms of the paradigm, as shown clearly both by the archaic apophonic forms in Indo-Iranian like Ved. ás-ti s-ánti, (á)ghas kṣ-an, and by the forms of a more recent level with generalized full grade like át-ti ad-ánzi, pple. adánt-; sás-ti sas-ánti (RV ipv. sasántu), pple. sasánt-. That these forms originally belonged to the same apophonic class is shown by their identical Hittite reflexes: eš-zi aš-anzi pple. ašant-; ezzazzi (= ed-s-zi) ad-anzi, pple. adant-; šeš-zi šaš-anzi, pple. šašant-, all with the generalized Hittite apophony e : a noted above.

Rather we must assume that it is the fixed accent on the root which is responsible for the introduction in these verbs in Indo-

Iranian of a quantitative apophonic relation ā : a between singular and plural. This Ablaut took the place of the inherited pattern of accented full grade : unaccented zero-grade, which in certain verbs by the generalization of the full grade had been reduced to a contrast of accented root in the singular, unaccented root in the plural. Thus beside the contrasting

sg. sás- : pl. sas-/

there was no accessory mark in

sg. śás- : pl. śás-,

whence the development by a sort of compensation.

sg. śā́s- : pl. śás-

tā́ks- : tákṣ-.

As we shall see below, the columnar accent on the root syllable in the plural is likewise responsible for the zero-grade 3 pl. ending -atí < *-n̥ti.

§6. This fixed root accent in singular and plural is unique

in the whole class of athematic active verbs; for this reason the small group of verbs like tā́ṣṭi tákṣati are probably not originally primary root verbs. A fixed accent is a characteristic of denominative verbs, where the accent repeats that of the base noun; and precisely the oldest type of denominal formation is the bare suffixation of the athematic endings directly onto the athematic noun stem, as in Vedic bhiṣáj- 'physician' → bhiṣák-ti 'heals'. The athematic denominative is Indo-Iranian in date, cf. Av. 1 sg. subj. bišazāni beside 3 sg. bišazyāt. Note in this verb both in Indic and Iranian the coexistence of athematic and -ic-/-io- stems; RV VIII 79.2 bhiṣákti víśvaṃ yát turám 'er heilt alles, was krank ist' and VIII 22.10 bhiṣajyátam yád ā́turam 'heilet, was krank ist' are clearly variants of the same formula. The nominal stem bhiṣáj- is itself an ancient compound, whose first member bhiṣ- can be equated with Gāth. -biš- in fin. comp. (ahūm.biš- 'Weltheiler'); the second member may be the verbal root aj-, Av. az- (: ἄγω). The compound is thus comparable to Ved. pṛ́kṣ- 'nourishment, one's fill' : pṛkṣúdh-, and Gāth. īš- 'Kraftspendung' : išud-, with the second member -udh- from *uedh-. See Humbach, Gathas ad Y. 31.14. Another possible Vedic example of an athematic denominative is 3 sg. áspaṣṭa to the denominative *spek-ti assumed by Schwyzer, Gr. Gr. I 722 and Szemerényi, Syncope 378, cf. especially Meillet, Intro.[8] 218.

The type bhiṣákti is residual, and the example virtually

unique in Indo-Iranian. But Hittite nekuzzi 'it *nights, gets to be night' beside nekuz mehur 'night time' offers a clear and archaic parallel, whether it reflects *nek^{w}t-ti or *nek^{w}-ti. Cf. Szemerényi, Syncope 411 and the references there cited. For my own view (*nek^{w}-ti) see ch. III §2. Hittite huwap-zi 'treats badly' beside the thematized adjective huwappa- 'bad' is doubtless an old athematic denominative verb as well; the nominal base recurs with a secondary suffix in the Germanic family of Goth. ubils < *up-élo- (samprasāraṇa Ablaut *ə̯up-/op- : *au̯p-).

I therefore suggest that the verbs tā́ṣṭi, śā́sti, rā́ṣṭi are by origin athematic denominatives to root nouns *teks-, *kes-, *rĕg-, formed in Indo-Iranian or perhaps even Indo-European times. Cf. Schwyzer, Gr. Gr. I722. In this way the accentual immobility of the verbal forms finds its explanation.

The root noun is attested in *rēg- 'king', Ved. rā́ṭ = Lat. rēx, OIr. rí, and here the long vowel of the stem may simply be repeated in the verb rā́ṣṭi. The parallelism of nominal formations from these three forms may be seen in the following:

tā́ṣṭi	::		tákṣan-	táṣṭar-	
rā́ṣṭi	:	rāj-	rā́jan-	rā́ṣṭrī-	rā́ṣṭrám
śā́sti	::	-śā́s- (Br.)		śā́star-	śāstrám (Br.)

The antiquity of táksan- is clear from the comparison of Gāth.

gəuš.tašan- and Gk. τέκτων; cf. Lat. castrum beside śastrám. The underlying nominal forms were presumably nouns of agency: *teḱs- '(carpenter), artificer', *rēg- "king", *ḱes- 'sacrificer'. All are interestingly associated with religious or cultic practice, cf. Gāth. gəuš.tašan- (Humbach ad Y. 29.2), Lat. rēx sacrificulus, and the explicit passage RV 1.162.19 (aśvamedha, horse sacrifice) ékas tváṣṭur áśvasyā viśastā́ ... tátha ṛtúḥ 'one is to be the sacrificer (slaughterer, vi-śastár-) of the horse of Tvaṣṭr ... That is the rite.'

§7. In Ved. bhiṣáj- : bhiṣajyá-, Av. bišaz- : bišazya- we may observe a suffix alternation zero : *-i̯e/o- which is characteristic of several archaic categories, both in the verbal and the nominal systems, in a variety of languages. Cf. especially the archaic intensive, RV dédiṣ-te, tétik-te, cékit-e beside rerih-yáte, coṣkū-yáte, Gk. πολφύσσω (*-φυκ-i̯ω), OCS glagolj̨ (*golgol-i̯o-). For comparable Hittite formations see N. Van Brock, RHA 75.119-165 (1964). Note kurkuriya- 'cut' : kuer- 'id.', with the -i̯e/o- of rerih-yate etc. To the Indic intensives with archaic 3 sg. -e (cf. ch. VI §2) we can compare Hittite hi-conjugation forms like pariparai 'blows (a wind instrument)'; note the use of the intensive in connection with the production of a musical sound also in RV saniṣvanat 'sounds' 8.69.9 (Celtic Verb 130 n.7). Gk. θεύσω < *θευ-i̯ω is the replacement of athematic θευ- < *g^{w}heu-,

preserved only in the ppl. θενών and the form ἀπέφατο· ἀπέθανεν (-φατο < *g^{w}hn̥-to) in Hesychius. In the root noun for 'heart' *ker(d)/ krd- note the Hittite gen. kard-iyaš beside Lat. cord-is, Skt. hṛd-áḥ.

We shall have occasion in the succeeding discussion to note further examples of the same alternation zero : -ie/o-, which commonly presents itself as a renewal of the suffix, zero → -ie/o-. As a secondary suffix, *-ié/ó- commonly forms both denominatives and deverbatives. See in particular Meillet, Introd.[8] 217-220. If we can observe as an isolated case the renewal bhiṣáj- → bhiṣajyá- in Vedic, the latter of the normal productive denominative type apas-yá, namas-yá, it follows that the normal thematic denominative type vasna-yá- must represent the renewal of an earlier denomininative verbal stem *vasna-. Such a verbal stem is identical with the nominal stem vasná-, just as the verbal stem bhiṣáj- is identical with the nominal stem bhiṣáj-. As we shall see in ch. VIII §1 ff., the role of these thematic denominative verbal stems is crucial in the development of Indo-European verb inflexion.

§8. In Balto-Slavic we have a group of verbs of the structure TeT- which exhibit a long root vowel. Typical are Lith. bė́gu 'I run' and Russ. beg'u < *bĕ́go beside Gk. φέβομαι (bheg^{w}-); ė́du (athem. ė́mi) and OCS jamь < *ĕ́mь beside Gk. fut. ἔδομαι, Lat. 3 pl. ēdunt (*ed-); i-sēkti 'engrave' and OCS sěko beside Lat. secāre

(*sek-). It is likely that all these were at an earlier period athematic presents, as is clear in ěmi = jamь, 3 sg. ěsti. The remainder have undergone (mechanical) thematization, as is normal for Indo-European athematic verbs in Baltic and Slavic.

Kuryłowicz, Apoph. 305-8, has explained this type as an independent Balto-Slavic lengthening process in athematic TeT-roots before consonantal ending (3 sg. *-ti). It rests on the appreciation of TēR-t- by his law of polarization as a shortened *TeR-t-, whence the introduction of the long vowel in the phonologically permissible TeT-t-. It is thus parallel to his explanation of the Balto-Slavic lengthened grade in nominal formation, and phonologically justified by the shortening of tautosyllabic long diphthongs which we know to have taken place in Balto-Slavic; cf. also Lg. 34.387 (1958).

It is possible also to suggest that the lengthening is related to a once-present paradigmatic apophony in the Balto-Slavic athematic verb. There is evidence in TeRT- roots that such alternations did exist. The Baltic full grade (thematic) present and zero-grade preterite beside the Slavic zero-grade (thematic) present but full grade elsewhere, in such forms as Lith. keřta 'hews', pret. kiřto, Russ. Ch. Sl. črьto črěsti, may be most readily explained as a thematization of a Balto-Slavic apophonic present *kert- : *kirt-, IE *k^{w}ert- : *$k^{w}$$_{o}$rt- (Ved. kṛntati), as shown by Stang. Vgl. Gram. 332. Compare also the split into two lexemes, both with the -ie-/-io-

suffix commonly added to old athematic verbs (Lith. liẽžia 'licks', OCS ližǫ : Ved. rédhi) in Lith. skẽlia 'splits' : skìlia 'strikes fire', cited by Stang, Vgl. Gr. 354-6. If both TeRT- and TeR- roots formerly showed in Balto-Slavic an apophonic paradigm in the athematic present, it is possible that the TeT- roots developed a parallel apophony sg. TēT- : pl. TeT- similar to that of the Indic type śās- : śas-, but independent of it. In this case it would have been the lengthened grade singular which was generalized (with eventual thematization), as in liẽžia, ližǫ.

The case of Latin ēsse, ēs ēst ēstis, essem, as Kuryłowicz has shown, loc. cit., is isolated, and independent of the Balto-Slavic forms. The presence of Ved. átti shows that a direct equation of ēst with Lith. ẽsti is not possible. The long vowel appears in Latin only before s or t, and the root shows always the form ēs, as against ed- before vocalic ending (edō, edim). One wonders whether Lachmann's law and/or the participle ēsus has played a principal role in the creation of these Latin forms.

§9. In the 2 pl. there is some uncertainty about the root vocalism in the normal root athematic type, whence the reconstructions *(é)s-te, *g^{w}h(é)n-te. Traditionally the zero grade is postulated throughout the plural in the verb *es- and all other athematic paradigms; for *es- this is entirely on the evidence of Indo-Iranian, Ved. sthá and

Av. stā. On the other hand the 2 pl. has the full grade form in Lat. estis (as against s-umus, s-unt).

In the subsequent discussion we shall have numerous occasions to point out the conservation of a more archaic form in the imperative, which has been ousted from the indicative by the encroachment of a new form. The principle is scarcely new, and may be illustrated at once by the contrast of Lat. ipv. 2 pl. legite and indic. 2 pl. legitis, the former identical with Gk. λέγετε, both indicative and imperative. The partial conservation of the original oxytone accent in the Greek second aorist imperative is another example. In our earliest (8th cent.) Old High German documents the 1 pl. present ending is -mês for indicative and imperative alike; in Otfrid (ca. 865) -mês is found only in the imperative. By the time of Notker (ca. 1000) -mês has disappeared entirely.

Now Sanskrit grammar prescribes the zero-grade root for the 2 pl. athematic imperative, thus stá 'be!', and for the nasal infix (seventh) class, yuṅktá 'join!'. Neither form is attested in the Rig- or Atharva-Veda; what we find is 2 pl. ipv. with full-grade root, yunákta (2x). In the nasal infix class there are found in the RV three other full grade 2 pl. imperatives, unátta, anaktana, pinaṣṭana (each 1x), beside only one instance of the zero grade, pari vṛṅkta (1.172.3). There are furthermore no RV attestations at all of the 2 pl. indicative of nasal infix presents. This evidence suggests that the full grade was originally proper to the 2 pl. in Vedic as well as

the singular, and that the archaic situation is reflected in the forms of the imperative. Outside the nasal infix class, which is clearest, we may point to the RV full grade imperatives éta (étana), kárta, gánta, hantanā beside zero-grade itá (itana), kṛta, gata, hata, and in particular juhóta (11x), juhotana (6x), beside the 'regular' juhuta attested only twice. In several cases the full grade imperative is common Indo-Iranian: RV stotā (2x) : Av. staota; aor. RV śrótā (4x) : Gāth. sraota, beside one example in book X of śruta. Note that śróta occurs twice in a single hymn (5.87.8-9) where the same two mantras furnish the full grade imperatives yuyotana and gánta, beside étana = á itana pp. Is the latter correct, or should we read unaccented etana?

It is quite likely that Hom. κλῦτε replaces an earlier * κλευτε, as Brugmann saw, Gr. Gr.[4] 315 n. 1, which makes very plausible the Indo-European antiquity of a form *k̂leu-te. Similarly RV éta(-na) agrees with Paelignian eite (Vetter 213), Lat. īte, as against RV ita(-na), like Gk. ἴτε and OPers. paraitā < para + itā.

The full grade encountered in the Vedic root aorist 1 pl., e.g. ahema, akarma, is probably to be explained as a secondary elimination of apophony on the model of the sigmatic aorist; cf. Kuryłowicz, Infl. Cat. 119-120. There is no evidence in Vedic outside the aorist for a full grade in the athematic 1 pl. nor any from cognate languages: evidence for the zero-grade is such an isolated form as Hom. ἕηταμεν < ἐ-ηᾰ-μεν, to which 3 sg. ἕητᾰ, 3 pl. ἕηταν, are back-formations.

§10. This situation in Indo-Iranian is strikingly confirmed in Hittite, significantly both in indicative and imperative alike. In the nasal infix class the 2 pl. pres. always has full grade harnikteni šarnikteni ninikteni = /harnekteni/etc, while the 1 pl. has zero-grade in pres. šarninkueni, pret. ištarninkuen = /šarnkweni/ etc., the only forms attested, and throughout the 3 pl., harninkanzi šarninkanzi nininkanzi, pret. harninkir nininkir. In the imperative, full grade 2 pl. harnikten agrees exactly with RV yunákta anaktana. Cf. also the identity in vocalism of the archaic third person imperatives : 3 sg. sarnikdu = RV anaktu, 3 pl. harninkandu = RV añjantu.

In view of this apophonic pattern in the nasal infix verbs of both Hittite and Indo-Iranian, it is likely that the fundamental paradigm of such a Hittite verb as ed- 'eat' is pres. 1 pl. ad-weni 2 pl. ez-teni 3 pl. ad-anzi, ipv. 2 pl. ez-ten. Cf. Celtic Verb 78 with n. 7, and for the forms, Kronasser Etym. 392.

It has previously been assumed that this full grade in the 2 pl. is indeed of Indo-European antiquity, but specifically a feature of the imperative alone. Cf. Bartholomae, Grdr. d. iran. Phil. 1 1.90, Brugmann, Grdr.^{2} II 3.60-61, and Schwyzer, Gr. Gr. 1.799 n. 6 with the references there cited. But the 2 pl. imperative is an old 'injunctive', as stated explicitly by Bartholomae and Brugmann, and the 'injunctive' itself is the oldest form of the indicative, as Thurneysen saw already in 1883, in his pioneering article 'Der idg. Imperativ,' KZ 27.172-80. It follows that the full grade 2 pl.

imperative continues the oldest form of the 2 pl. indicative of the Indo-European athematic paradigm. When we then observe that the Indo-European situation thus arrived at inductively may be observed intact in Hittite, then we are entitled to assume the validation of our reconstruction.

For these reasons it is here suggested that in the apophonic paradigm of the athematic verb, the accented full grade root was found not only in the three persons of the singular, but in the 2 pl. as well. The apophonic pattern of Lat. sumus estis sunt represents in this respect a striking archaism. It will be noted that this is wholly independent of the "half-thematic" paradigm for the Latin verb which has been assumed by Meillet, and defended by Bonfante, BSL 33.111-129 (1956). The latter is far from certain, and I prefer to regard sumus as a Latin replacement of *smos. Cf. Szémerenyi, Syncope 190 ff. with references, though I cannot accept his explanation of 1 sg. sum.

§11. As regards the form of the desinences proper, the singular -mi -si -ti needs no comment here; for the genesis of 3 sg. -t(i) see ch. III §3 below. In the 1 and 2 pl. we have adopted the portmanteau forms -me, -te, though most of the Indo-European languages show evidence for variant forms, apophonic and/or further extended such as *-mo (OIr. -m), *-me/osi (Ved. -masi), *-mos (Lat. -mus),

*-mes (Dor. -μες), *-men (Gk. -μεν), *-meni (Hitt. -meni), *-teni (Hitt. -teni), *-tes (Lat. -tis), and others which need not be catalogued here. The great variety of forms, often varying within the same dialect, is enough to show that the forms were not fixed in Indo-European itself.

It is furthermore clear that the endings for 1 and 2 pl. were not in Indo-European differentiated as to primary and secondary forms; where this process took place, it is a function of the particular history of the individual dialect. Such forms as the Lat. middle 1 pl. -mur < -mo + r like 1 sg. -or < -ō + r show that *-me/o functioned as a 'primary' ending, and OLat. fut. aduocapit(o) 'aduocabitis' (Carmen Arvale; Norden, Altröm. Priesterb. 181) shows that -te was likewise the original 'primary' ending. The ubiquitous *-te in the imperative can only be so explained.

§12. In the 2 pl. there is also some evidence for an archaic ending *-e, without the -t-: the Vedic perfect of the type cakr-á, vid-á with the ending occurring once in Avestan, hanhan-a 'you have earned'. Kuryłowicz, Infl. Cat. 153, suggests two Indo-European allomorphs -e ~ -te, of which -e is the older, and that the restriction of -a to the perfect in Indo-Iranian is a later development. This view is supported by the sigmatic formation of Paelignian lexe (Vetter 213) interpreted by Thurneysen (Rh.M. 43.347 [1888]) as 'legistis', though

to be sure the same inscription contains the 2 pl. ipv. eite 'ite' noted above. A clear decision about this ending *-e, showing signs of archaism and curiously recalling a nominal form, seems not to be possible.

§13. In the 3 pl. both full grades, -enti and -onti, are attested in the simple athematic verb (with zero-grade root). The variation is comparable to that in the genitive singular *-os (ποδ-ός, OLat. nōmin-us) beside *-es (OLat. Veneres 'Veneris'). In the nasal infix verbs the full grade 3 pl. ending is likewise proper, on the evidence of Indo-Iranian, Greek, and Hittite. Cf. Ved. yuñj-ánti (*-enti, since g > j) pṛṇ-ánti (*pi̯ṇə-e/onti), ṛṇv-ánti; Gk. πάμπτουσι (*-nə-onti), τίνυυσι (*-uF-ουτι); Hitt. harninkanzi /harnk-anzi/, arnuuanzi (= RV ṛṇvanti); Lat. sternunt (*-nə-onti). On this basis the 3 pl. of the Slavic nǫ-presents, which represent in general a Slavic innovation, may in some cases be a regular reflex of the an IE nā- (neə-) present : 3 pl. *-nə-ont(i) > OCS -nǫtъ, ORuss. -nutъ.

§14. In the reduplicated athematic present the ending usually has zero-grade *-n̥ti, cf. Ved. third class dád-ati < *déd-n̥ti,

intensive várvṛt-ati < *u̯ér-u̯rt-nti. But there are indications that the full grade vocalism is historically the older, and that the zero-grade vocalism of the desinence is a function of the accent on the reduplicating syllable.

This pattern of accentuation itself is originally proper only to the intensives with full reduplication: type RV 3 sg. várvarti (= °vart-ti) 3 pl. várvṛtati 'roll', 3 sg. mid. tétikte 'sharpens', or with older 3 sg. ending -e cékite 'excels'. The intensive was originally columnally accented on the reduplicating syllable, as in the above examples which are normal Vedic; cf. Whitney §1007, to be rectified in that it is nenikté which has the irregular accent, rather than tétikte, dédiṣṭe. The inflectional pattern in the intensive is common Indo-Iranian, cf. Gāth. 3 sg. daēdə̄ŝ·t, 3 pl. vōi.vīdaitī (Y.30.8; Humbach, Gathas 2.22).

The reduplicated third class, on the other hand, was originally accented and inflected exactly like the second class, on the root in the strong forms and on the endings in the weak forms, cf. the archaic forms RV juhómi, juhótana but juhumás. It thus differed from the root class only by the presence of reduplication (of variable form) which presumably gave an iterative or intensive force to the base form, though a semantic distinction is in many cases scarcely to be observed. The variation between Ved. siṣakti Av. hiš.haxti 'follows' (reduplication *si-sek^{w}-ti), Ved. 3 pl. saścati (reduplication *se-sk^{w}-nti), and Gāth. 3 pl. ipv. scantu (unreduplicated *sk^{w}-entu), is archaic, and directly

comparable to the situation in Anatolian, on which see N. Van Brock, RHA 75.119-164 (1964).

The accentuation of the intensive type várvarti was largely imposed analogically on the reduplicated third class presents in the singular, bringing about the replacement of e.g., RV bibhárti (1x) by bíbharti (3x) bíbharmi bíbharṣi. In the 3 pl., the accentuation of the intensive várvṛtati, together with the zero-grade ending -ati (*-nti), was also imposed on the third class presents, bringing about the replacement of *bi-bhr-ánti by RV bí-bhr-ati. See the discussion in Kuryłowicz, Accentuation² 101-103, on which the present account is based.

In the intensive reduplicated type the zero-grade 3 pl. -nti is conditioned by the full grade accented reduplicating syllable; at least synchronically in Indo-European proper we can derive 3 pl. *ǵer-ǵr̥t-nti, RV várvṛtati, from an underlying morphophonemic representation or basic form {ǵér-ǵert-enti}, by (synchronic) vowel reduction rules, in the terms of generative grammar. It is the full grade form *e/onti which is fundamental.

Isolated instances of 3 pl. *-nti, again doubtless conditioned by the [illegible]ular accent on the root syllable, are RV rákṣanti 'they fashion', and Br. śāsati, 'they cut' ipv. śāsatu, on which see above. Iranian offers nothing comparable in the athematic active 3 pl.; Av. šyeiti beside šyeinti is suspect in view of Ved. ksiyánti (cf. Bartholomae, Grdr. §167.2). The vocalism of the 3 pl. ending is an innovation, conditioned by the special character of the present forma-

tion noted above, §5.

§15. Another indication of the same conclusion is the form of the 3 pl. middle secondary ending in one of the rare if not unique cases where the root vocalism is the same: the contrast between aorist indicative 3 pl. ákrata 'made' with zero-grade *é-k^{w}r-n̥to, and the corresponding injunctive kránta with full grade *k^{w}r-é/ónto. Cf. J. Narten, Die sigmat. aor. im Veda 24-5. The injunctive is a priori an older form of the indicative, and it follows that the full grade aorist middle 3 pl. -anta < *-e/onto is older than the zero-grade form -ata < -n̥to. The full grade form -anta recurs in the injunctives budhanta yujanta; and in general on the ending -anta, which is abnormally frequent in archaic categories such as the intensive, see Renou, BSL 33.6-7 and 21 n. 1 (1932).

In the 3 pl. of the middle, Greek and Indic show evidence for zero-grade ending *-n̥toi, *-n̥to. Cf. ásata : εἵατο, sáyate : κέ(ι)αται. But neither need reflect an Indo-European form; Avestan shows the full grade in aŋhanto, and Homer has three examples of full grade κέοντται, all at verse-final position which may indicate the preservation of an archaism. Cf. Chantraine, Gr. hom. 476. But precisely in the 3 pl. middle the old ending was *-r(o), cf. Av. aŋhaire. The spread of -nt- represents a later and partly dialectal development, and the zero-grade ending *-n̥to(i) must represent the

product of a late morphophonemic vowel reduction rule in an unstressed syllable. Once the middle ending -e/onto(i) was created, according to the mechanism described by Kuryłowicz in Infl. Cat. 44,58,64 (v. infra ch. V §20), it was dialectally subject to reduction to *-n̥to(i) either if the root was columnally accented, as in the class á̆sate (Whitney §628), or if the ending was accented on the final syllable, as in RV duhaté. The latter accentuation is probably modeled on oxytone 3 sg. duhé, etc.; the accent of rihaté may thus rest on an unattested 3 sg. pres. mid. *rihé like duhé. For the genesis of this type, which is independent of the athematic active paradigm, see ch. VI below.

The final development is the 'classical' accentuation bruváte, vr̥ṇváte, bhuñjáte. This is attested for eleven roots in the RV, four of which have oxytone by-forms; the pattern, doubtless imitating the paroxytone actives in -ánti, has not yet been fixed. The attested forms with oxytone -até attested in the RV are tanvaté (3x), manvaté, riṇaté, spr̥ṇvaté, punaté (2x), duhaté (3x), rihaté; with both -até and -áte, vr̥ṇvaté ~ vr̥ṇváte, añjaté ~ añjáte, indhaté (4x) ~ indháte (4x), bhuñjaté ~ bhuñjáte; with -áte, bruváte, hinváte, badbnáte, vr̥ṇáte (2x), tuñjáte, pr̥ñcáte, yuñjáte (4x). When no figure is given, the form is ἅπ. λεγ.; the figures refer only to attestations with accent. For the shift -até → -áte cf. Kuryłowicz, Accent.² 104.

§16. The final proof of the anteriority of the full-grade 3 pl.

is the form of the 3 pl. imperative, which is regularly -antu in Vedic, even where the 3 pl. indicative is -ati: cf. especially in the archaic intensive cākantu beside 3 pl. (várvṛt)-ati. Of the two 3 pl. ipv. forms dadhantu and dadhatu, each attested once, it is the former which is more archaic; see further below. Thurneysen showed in the article quoted §10 above that the 3 p. imperatives -tu, -ntu represented the suffixation of a particle -u onto the oldest and simplest indicative form, as preserved as the injunctive. The process in the 2 pl. was therefore (in Vedic form) -ant + u. This imperative ending is of Indo-European date, and doubtless archaic; it is a significant common retention of Indo-Iranian, Phrygian (ϵιτου 'be it', Pedersen, Hitt. 192), and Anatolian alone (Hitt., Luv., Pal., Hier. Luv. -tu, -antu). It is therefore clear that since we have no old 3 pl. imperatives reflecting *-ntu, the formation of the attested *-e/ontu must antedate the reduction of *-e/ont(i) to *-nt(i). In Vedic terms, from indicative dadhánt(i) (cf. RV hapax dadhanti, injunctive dádhann 1.73.1) is formed imperative dadhantu, and only subsequently is *dadhánti remade to dádhati. In itself this is striking proof of Kuryłowicz's analysis of the history of the Indic third class presents. The genuineness of Ved. dadhanti, dádhann is further supported by Gāth. 3 pl. mid. pres. dadantē beside active dadaitī, as well as act. zazantī (Y.30.10), both of which show full grade endings. The last is correctly referred to za- 'loose' by Humbach, MSS 2^3.6n.3 and 23 (1957). He takes it

as a subjunctive-future, but a general present indicative fits the context better.

The zero-grade imperative form dadhatu is attested in RV 7.51.1, in a short hymn to the Ādityas; it is metrically certain, being scanned ∪∪– in the internal colon of a triṣṭubh, between caesura after the fourth syllable and the trochaic cadence. But the full-grade dadhantu, also RV hapax, is attested in a context which is more archaic, both verbally and metrically. In 7.62.6 we have in the trochaic cadence of a tristubh várivo dadhantu (∪∪/–∪–); hence the full grade -antu is metrically certain, and in the position of the line most favorable to the conservation of archaisms. The expression várivo dhā- 'freie Bahn schaffen' is a formulaic collocation, and doubtless older than the equivalent várivo kṛ-; it occurs four times in the RV, always in the cadence of a triṣṭubh, and always with an archaic form of the paradigm of dhā-. Beside the passage cited, we have 7.47.4 várivo dadhātanā no, with the full grade 2 pl. ipv. discussed earlier; 4.55.1 várivo dhāti devaḥ, with the very archaic root-aorist form with primary ending (Kuryłowicz, Infl. Cat. 116, 120; Ivanov, Obšč. sist. 79); and 4.24.2 várivo dhāt, with the old injunctive form and a notable metrical archaism as well, the paroemiac cadence ∪∪–∪ instead of the trochaic. On the paroemiac clausula in Vedic and other Indo-European metrical traditions see Watkins, Celtica 6.194-249 (1963). The archaic character of dadhantu in its context in the RV is thus highly probably. It is interesting to note

that there is other evidence for the form dadhantu in an independent saṃhita tradition : pāvamānīr dadhantu na, Arcika 2.651, TB 1.4.8.5, Khila 13, as cited by Aufrecht in his RV edition, 2.xlvi.

§17. From the comparative point of view, it is customary to equate the ending of OCS 3 pl. dadętъ, ORuss. dad-jatъ with Ved. dád-ati; this is inconclusive, since the Slavic ending can equally well reflect e-grade -enti. In Greek, the regular reflex -ᾱσι, Dor. -ᾱτι < -nti is found in a few forms (listed Schwyzer, Gr. Gr. 664), all of which are perfects; e.g. Hom. λελόγχασιν ἴσα λ304, Arc. Fοφλέασι. As Schwyzer points out, the ending cannot be original in this category, beside the evidence in other languages for an r-ending (Ved. -ur, Lat. -ēre); and a primary ending in the perfect is in any case unlikely in Indo-European. There is thus no direct connection between the Greek ending and that of Indo-Iranian. Schwyzer suggests that Gk. perf. -ατι is from the model of the reduplicated presents, assuming an earlier *τιθατι; but since Kuryłowicz has shown that the zero grade desinence is not original in this category in Indo-Iranian itself, Schwyzer's explanation loses in cogency. Gk. -ατι, -ασι is conceivably an independent creation built on the secondary 3 pl. *-α (later -αν) < *-nt, on the model -ον : -ουτι (-ουσι) = -α : -ατι(-ασι). The later -αν : -ανσι (Att. -ασι) would be a repetition of the same process, the effect in both cases being to differentiate

the perfect from the preterital tenses with secondary endings.

Apart from such cases, the only clear attestation of the zero-grade 3 pl. ending is the form -nti after secondary stems in long vowel : *-ē-nti (Lat. man-ent, Gk. ἔμον-εν), *-ā-nti (Aeol. χολαασι < -ᾱσντι, Lat. fug-ant). Here as well it is unlikely that the forms are of Indo-European antiquity; cf. Hitt. 3 pl. -ahh-anzi to the factitive in -ahh-, Lat. renou-āre, Gk. νεᾱν. Since the factitives in Old Hittite regularly form a 3 sg. according to the hi-conjugation (suppiyahh-i) beside the later -ah-zi, it is questionable whether such forms belonged originally with the athematic mi-conjugation at all.

If at least some of the long vowel suffixes are ultimately derived from root finals such as *plē- (*pleə-) as suggested by Kuryłowicz, Infl. Cat. 140, we should note the apparent apophony πί(μ)πλη-μι πέ(μ)πλα-μεν. Homer has 3 pl. πεμπλᾶσι, which suggests that the 3 pl. *πέπλεισι presupposed by 3 sg. ἐμπέμπλει (Herod., Hippocr. cf. Schwyzer, Gr. Gr. 1.689 represents *pi-plə-enti. Unreduplicated Gk. πλῆ-το and Lat. imple-nt < *plē-nt on the other hand probably never had apophony; cf. also K. πρᾶ-σις, ch. IIX §9 below.

§18. We have considered so far only the athematic paradigm with primary endings. To complete the picture we must give the secondary forms, which lack the final i of the primary endings of

1, 2, 3 sg. and 3 pl; 1 and 2 pl., as we have seen, are identical in Indo-European itself. The Indo-European paradigms are given without the augment e-, since the augment forms are a dialectal development, involving compositon of the finite forms with secondary endings and with a sentence connective particle *e to form a narrative tense, thus entirely parallel to the Hebrew vau consecutivum. See Celtic Verb 113-114, Celtica 6,15 (1963) pace Friedrich, Heth. Wb., Erg. 3.49.

The paradigm of the singular, and the 3 pl., may be restored as

*és-m̥

*és-s

*és-t

*(e)s-e/ont(?),

on the evidence of

Hitt. ešun	Ved. ásam	Hom. ἦα
(ešta)	(ásīs)	(ἦσθα)
ešta/est/	ās (ásīt)	Dor. ἦς
ešer, ešir	ásan	Hom. ἦεν.

For the root *g^{w}hen- we have

*g^{w}hén-m̥

*g^{w}hén-s

*g^{w}hén-t

*g^{w}h(e)n-e/ont(?);

compare Hitt. kuenun	Ved. ahaṇam
---	(á)han
kuenta /g^{w}ent/	(á)han
kuennir	cf. (á)gman < *g^{w}m-e/ont.

It is at once apparent from these paradigms that there are notable divergences among these three language families, which are in part serious enough to make the restoration of a common original uncertain.

Hittite and Indo-Iranian have each innovated in the 1 sg., though in separate fashion. I-Ir. -am represents -a (the regular reflex of *-m̥) reinforced by -m, the form of the same desinence after vocalic stem; the analogical refection preserved the unity of the paradigm -m(i) -s(i) -t(i), impaired by the phonological change m̥ > a. The Hittite form contains -n, the regular reflex of *-m after a syllabic, prefixed to an element -u- of obscure status in Indo-European, but which probably developed in Anatolian the status of an independent desinence of the 1 sg. It recurs as a primary ending in Luv. 1 sg. -wi. See ch. III §8 below.

§19. The greatest problem is posed by the 3 pl. It has two facets, the root vocalism and the form of the ending itself; the two may be connected.

The full grade *-e/ont is attested in such cases as those given: ásan < á-asan shows full grade root, like Gk. ἦεν < *e-es-ent, whereas the aorist 3 pl. agman shows zero-grade root; likewise Gāth. 2 sg. jə̄n < *g^{w}em-s, 3 pl. gaman < *g^{w}m-ent, which preserves the archaic Indo-Iranian morphophonemic alternation j : y of the root-initial consonant, which was eliminated in Indic. The morphophonemics are also confirmed by West Toch. (B) 3 sg. śem < *g^{w}em-t 3 pl. kmeṃ-ne kameṃ < g^{w}m-ont (1 pl. e-kmem, with preverb e- : Skt á). The full-grade root of *es- in the 3 pl. is less certain, since a form san with zero-grade may be attested at RV 5.19.5, and is certainly attested in Av. hən 'they were'. The Vedic and Iranian form is supported by Acol. augmented 3 pl. impf. εον (Schw. 644.12) < *e-sont, with o-grade ending as against ἦεν; see Wackernagel, IF 39.221 (1921) = Kl. Schr. 510, as well as Schwyzer, Gr. Gr. 1.663. Clearer is the case of Ved. i 'go', where beside the common augmented imperfect áyan < á-ayan, we have an unambiguous injunctive práti yann at 3.4.5, with zero-grade root. (The unaugmented 3 pl. forms asan, ayan are thematic vowel subjunctives.) The full grade form -e/ont is likewise presupposed by the 3 pl. imperative, as discussed above, and must be considered basic; but the vocalism of the root associated with it remains uncertain.

In the nasal classes we have the full grade ending, as in the present: Ved. avr̥ñjan (*-ent), r̥nvan, apunan (*-nə-e/ont); Gk. ἔλαμνον, ἔτεῖνον (*-νF-ον).

§20. The zero-grade *-n̥t is found in the reduplicating class in Avestan (Gāth. dadaṯ, jīgərəzaṯ, ava-zazaṯ) but not in Indic. The injunctive corresponding to 3 pl. pres. dádhati is dádhann (1.73.1), with a probably ancient full grade; Gāth. dadən (Y.30.8) shows the same form, if it is not a thematic vowel subjunctive (so Bartholomae). In the archaic intensive, where the 3 pl. -ati is originally at home, we have 4 roots showing -an in the imperfect, against 6 with -un in the RV, a total of 5 and 9 attestations respectively. The forms are apīpyan, carkiran, pāpatan, śóśucan; ájohavur, adardirur, adīdhayur, anonavur, arāraṇur, dīdhiyur. This is probably the immediate source of the 3 pl. -ur in the Indic reduplicated class ádadhur (abibhran once in book X is probably secondary). Cf. §14 above; Leumann, Morph. N[illegible] 27f. likewise believes -ur of ádadhur to be secondary, but regards the perfect as its source. The pattern 3 pl. pres. -ati, pret. -ur in the intensive may be an archaism; the similarity with Hitt. pres. -anzi, pret. -er is striking. It is regrettable that no 3 pl. imperfects of the intensive appear to be attested in Iranian. But outside the intensive and the perfect, the active 3 pl. secondary ending -ur in Indic, found in the reduplicated present, the aorist and imperfect to roots in -ā, the sigmatic aorist, and the optative, is doubtless

secondary. Cf. Kuryłowicz, Infl. Cat. 60-61 and Leumann, o.c. 20-40 (who does not treat the intensive at all). The late spread of the r-ending in a number of these categories is clear from the Avestan evidence, where we have, e.g., athem. opt. 3 pl. Gāth. h'yān beside Av. hyārə.

In the reduplicated present and the root aorist Iranian has no 3 pl. r-endings. The only alleged example, Gāth. ādarə (Y.43.15 and Frag. Darm. 3) cited by Kuryłowicz after Bartholomae, is not equal to Ved. aor. ádhur, but to Ved. perf. āhur, as shown by Wackernagel, Kl. Schr. 430, cf. Humbach, Gathas 2.52. The original 3 pl. of Iran. dā- appears in the Gathic injunctive dąn (Y 45.5, cf. Humbach 2.63).

§21. The coexistence of -r and -nt as nominal suffixes, as in Gk. -αρ (-ωρ) : -ατ- (*-n̥t-) would suggest that both forms could be associated in the 3 pl. function in verbal paradigms since the remotest times, cf. the remarks of Ivanov, Obšč. sist. 47-48. The hesitation -an ~ -ur in the imperfect and injunctive active of the archaic intensive (the corresponding middle always -anta) curiously recalls the dialectal relations between the Luvian and Palaic 3 pl. preterite in -nta and the Hittite 3 pl. pret. -er. Palaic -nta (lukinta 'they lit') is probably /-nt/ = Ved. act. -an, on the evidence of unambiguous 3 sg. -t (lukit), cf. Kammenhuber, BSL 54.39 (1959). But in

view of Luvian 3 sg. act. pret. -tta even after vowel, hence *-to, Luv. 3 pl. -nta probably corresponds to Ved. mid. -anta. Cf. perhaps the semantic indifference of intens. 3 pl. act. śóśucan RV VI 66.2 and 3 pl. mid. śośucanta VII 1.4.

The association 3 pl. pres. -anzi and pret. -er in the athematic mi-verb type is clearly ancient in Hittite. One should note, however, that while -anzi entails the zero-grade of the root (aš, ad-, app-, aku- kun-anzi), -er(-ir) entails full grade : ešer, eter, eppir, ekuir, kuenir, all from Old Hittite texts. In the ḫi-verbs with apophony a : e the relations are less clear, since both vocalisms are found in Old Hittite texts: arir XXXVI 101 II 4, akir and ekir BoTU 13 Rs. 22, 28, akir BoTU 17A Vs. 38, ašešir BoTU 22A I 6, 11 12A II 25, 26, HAB. This difference in root vocalism suggests perhaps that the -r- and -nt- forms are ultimately of somehow separate origin, unless one wished to suggest original apophony in an underlying nominal formation. But their integration into the paradigm must go back in part to common Indo-European.

For the (active) perfect we have the testimony of Indo-Iranian, with the endings Ved. -ur, Iran. -arə (Av. bābvarə, Gath. cāxnarə, dādarə), also -ərəš = /-r̥š/ in Gāth. cikōitərəš. The full grade of cikōitərəš = /cikaitr̥š/ as against the zero-grade of Ved. cikitur may be an archaism, in the light of the apophonic grade of the Hittite 3 pl. pret. forms just noted. Avestan shows the ending -rš also in the athematic optative, jamyārəš etc., whereas the thematic optative in

Iranian has the 3 pl. act. -ay-an unlike Ind. -ey-ur. The reconstruction of these endings is uncertain; while *-r̥s will regularly yield Ind. -ur and Iran. -r̥š, the equation Ind. -ur : Ir. -ar is normally valid only for antevocalic IE *r̥, i.e. in principle a sequence *-r̥əV-, cf. Ved. purā : Iran. parā. It will stand if it is legitimate to regard the word boundary after *-r̥ as prosodically equivalent to *-r̥ə. The alternation *-r̥ ~ *-r̥s is unparalleled in Indo-European desinences; the -s recalls the alternants in the shape of preverbs and prepositions, e.g. *en ~ *ens (Gk. ἐν, ἐνς), *ap ~ *aps (Lat. ab, abs), *up ~ *ups (Lat? sub, sus-).

Hittite attests the form -er, -ir, reflecting *-ĕr. The Old Irish 3 pl. pret. -atar may be syncopated to -tar, and thus must reflect a composite ending *-ont-Vr, cf. Thurneysen, OIGr. §699. Germanic may show indirect evidence for a 3 pl. pret. *-ur < *-r̥, v. infra. Latin shows 3 pl. perf. -ēre (beside -ĕrunt < *-is-ont), whereas the other Italic dialects have only -e/ont. Tocharian has 3 pl. pret. B -āre, -ar, A -ăr, -ar, in which the -ā- must be the regular preterite sign. A unitary common Indo-European prototype for all these forms cannot be reconstructed; cf. Polomé, Proc. IX Int. Cong. Ling. 875-6, with references. At most we can note that the alternations *-ĕr : -r̥ : -r- strongly recall archaic nominal patterns, like Gk. πα-(τ)ήρ, ἁδ-(τ)ρά-σι, πα-(τ)ρ-ός, or τέκτωρ, τέκταρ. For the alternation with -nt- cf. Gk. ἦμαρ (*ām-r̥) gen. -ατος (*ām-nt-), as well as Arm. awr 'day' < *ām-ōr, compare Benveniste, Origines 14. Note that in Armenian the derivation

*amōr > aur is wholly parallel to *anēr > ayr 'man', which renders unnecessary the recourse to complicated hypotheses to explain the latter (e.g. Winter in Indo European and the Indo-Europeans [Proceedings of the 3rd IE Conf., Philadelphia, 21-23 April 1966], p. 5 of preprint).

Despite the attention of Indo-Europeanists, the original status and subsequent integration of the r-ending in the active paradigm, as well as its relation to the 3 pl. middle *-ro, remains in part enigmatic. See further below, ch. XVII §2.

§22. It is customary to assume a zero-grade *-nt for the Germanic pret. and perfecto-pres. 3 pl. -un, e.g. Goth. witun 'they know', and to anchor this reconstruction with the equation OSax. dedun 'they made' : Gāth. dadaṇ, positing *dhe-dhə(i)-nt. Cf. Polomé, Proc. IX Int. Congr. Ling. 876-8, with references, Ivanov, Obšč. slist. 19, and Goxman, Issl. sravn. germ. jaz. 4.364-6, for a discussion of the entire question. Yet the equation is suspect on several grounds. As we have noted above, Gāth. dadaṇ is probably a more recent form than Ved. inj. dádhann, and perhaps Gāth. dadən. On the other side of the equation, OSax. dedun coexists with dādun, and it is the latter form which is best attested in Germanic : OHG tātun, OEng. dōdon (poetic and archaic for innovated dydon < *dud-), and Goth. -dedun in the weak preterite; Gmc. *dēd-, also attested in nominal derivatives. Polomé has furthermore shown clearly in the work cited that the Germanic

preterite is to be derived from the Indo-European perfect entirely, rather than by invoking the aorist or imperfect to explain isolated features.

It follows that the correct equation is not OSax. dedun : Gāth. impf. dadat (which Polomé tries to save by gratuitiously regarding the Avestan form as a perfect), but OSax, dādun, Goth. -dedun, etc. : Gāth. perf. 3 pl. dādarə. The repartition of vocalic length in the reduplication, Gāth. perf 2 sg. dadā̊ə : 3 pl. dādarə, is identical with that of OSax. pret. 2 sg. dēdōs (archaic) : 3 pl. dādun, which is common Germanic. Cf. for Indo-Iranian, Benveniste, Symbolae Kuryłowicz 25-33.

This equation permits us to explain the Germanic long vowel reduplication and at the same time shows that the Germanic ending -un must be an innovation, since the -nt ending is not historically proper to the perfect. The -n of Gmc. -un most certainly goes back to -nt (Gmc. -nþ), the Indo-European secondary 3 pl. ending; but in view of the generalization of -u- throughout the paradigm of the dual (-u, -uts) and plural (-um, -u , -un), such that it may legitimately be spoken of as a 'connecting vowel functioning as a secondary number-marker' (Polomé), it is far less certain that -un goes back to syllabic -nt. Even if the most plausible source of this -u- is the syllabic sonorants, e.g. [m̥] > -u-m, it is perfectly possible that 3 pl. -u-n contains the old 'injunctive' secondary ending -n(t) added to -u-, and replacing a moribund 3 pl. perfect (preterite) ending *-u-r < [r̥]

in early Common Germanic.

§23. Otherwise where the 3 pl. *-nt is unambiguously attested, notably Gāth. aor. stāŋhat etc. and Gk. -σαν (*-σα < *-s-nt + analogical -ν), we have to deal with forms of the sigmatic aorist, notoriously a very late category in Indo-European, fully elaborated only after the separation of the dialects. Even here there may be ambiguity; Gāth. stāŋhat Y. 50.3 may be either 3 pl. injunctive or 3 sg. subjunctive, and urvāxšat is 3 pl. inj. at Y. 34.13, but 3 sg. subj. at Y.44.8 (cf. Humbach, Gathas Komment, ad loc.). In the case of the s-aorist, it is quite likely that the thematic subjunctive with its sign *-se/o- is older than the indicative (or injunctive); cf. ch. V §10 on Hitt. -šša- and ch. IX §5 on Gk. subj./ fut. -σε/ο-. The zero-grade -s-nt is probably conditioned by the columnal accent on the root in the sigmatic aorist, one of the manifestations of its aberrant morphophonemic behavior. Cf. Meillet, Mél. de Saussure 81-106; Watkins, Celtic Vb. 9ff. The zero-grade *-s-nt is in any case not attested in all languages showing an s-aorist : Slav. -s-ę is ambiguous, since it can also reflect *-s-ent, and archaic Old Irish shows unambiguous *-s-ont > -sat in tu·crecomlassat 'they have collected' (*-s-nt would give *-set), cf. Thurneysen, OIGr. §676.

§24. For the relation between the primary endings -mi -si -ti and the secondary endings -m -s -t the essential was already said by

Thurneysen in 1883, in the article cited above (KZ 27.172-80). It is the secondary endings which furnish us the basic type within Indo-European; these are preserved most clearly in the Indo-Iranian injunctive, and aobve all in the conjugational pattern of the Old Irish verb. See Watkins, Celtica, 6.1-49 (1963); W. Meid, Die idg. Grundlagen der altir. abs. und konj. Verbalflexion (Wiesbaden, 1963). In Old Irish we have original athematic verbs with secondary endings functioning as presents in the conjunct forms ·tá 'is', ·tét 'goes', ní 'is not', -t 'is' ·tarti 'gives < *(s)tā-t, *ten-t, *ne est (*nēst), *d(e) est (enclitic connective *de : Gk. δε), *(to-ro-ad-)dhē-t. The corresponding absolute forms are táith-, téit, is < *(s)tā-ti, *ten-ti, *es-ti; cf. Ved. sthāt(i), (a)tan, asti (impf. 3 sg. ās 3x), dhāt(i). Outside Celtic, we have one clear example of an old form with secondary ending functioning as a present: OCS and ORuss. nĕ 'is not' < *nest, *ne est (beside 'regular' OCS nĕstъ), which can be directly equated with OIr. ní.

As I have said in the article just cited (47f): 'We may state that from the formal point of view the Old Irish conjunct forms reflect the Indo-European secondary endings, and the absolute forms reflect Indo-European primary endings. But functionally the two sets were never opposed in Proto-Celtic; it is not strictly accurate to say that the two sets of endings reflect the Indo-European oppostion primary/secondary. The development of that opposition, as we know it in "classical" Indo-European, is only a dialect feature, in which Celtic did not take part. It is clear in most of the early Indo-European languages that the

formation of the primary endings was basically by the suffixation of the enclitic particle -i, the mark of the hic et nunc, on the secondary ("injunctive") ending. The transition was simply from the optional use of the particle -i to its obligatory use.' Compare further Kurylowicz, Infl. Cat. 152: 'We must count with the basic position of the so-called injunctive (3rd p. -t) which owing to a later differentiation has furnished the durative present (in -ti), the imperfect (provided with an augment in Indo-Ir., Greek, and Armenian), the imperative (-tu). This fact agrees with the ideas entertained nowadays regarding the fundamental role of the form of the injunctive in the I.E. conjugation.'

Appendix: The dual

If the existence of a category of dual number in Indo-European can be inferred with reasonable certainty from the existence of special forms in Indo-Iranian, Greek, Germanic, Balto-Slavic, and Tocharian, its absence in Hittite remains striking. Italic and Celtic as well have no trace of a dual in the verb, even though Irish preserves reflexes of a dual in the noun down to the present day. It is probable that the category--at least in the verb--was never fully elaborated in Indo-European itself, and that the forms attested in the historical languages represent either innovations of post-Indo-European date, or secondary differentiations of plural endings already in the ante-dialectal period. The absence of clearly reconstructible personal pronouns for the dual number (those attested are all variants of the plurals) is finally a suggestive argument against the assumption of an aboriginal category of dual number in the Indo-European verb; for the theoretical aspect of this argument cf. Kuryłowicz, Infl. Cat., ch. 11.

It is noteworthy that in the first and second persons of the dual and the plural we have three basic morphemes with partly overlapping function: *-u̯e 1 du. but Hitt. 1 pl., *-me 1 pl., *-te 2 du. and 2 pl. This situation is comparable to that of the personal pronoun, where we

also have three overlapping morphemes in the same persons and numbers. Cf. *u̯e- with the functions 1 pl. (Hitt. weš), 2 pl. (Lat. uōs), 1 du. (RV vā́m), 2 du (Ved. vām); *ne- as 1 pl. (Lat. nōs), 1 du. (Gāth. nā); *i̯ŭ- as 2 pl. (Av. yūš), 2 du. (Ved. yuvám). On the other hand the *me- found only in Balto-Slavic and Armenian is restricted to 1 pl. function. The high degree of multivalence of these elements, both verbal and pronominal, in precisely the sector of 1/2 du./pl., is striking. It is at least conceivable that behind this situation lies a different pronominal and conjugational type from that normal in Indo-European: one where pronoun and verb did not exhibit the category of dual, but where the plural had the categories first person inclusive ("I and you"), first person exclusive "I and another or others"), as well as second person. It would be then possible to suggest that the desinences -u̯e -me -te, and the pronouns *u̯e- ne- (me-) i̯ŭ- were originally the exponents of these three functions respectively, and only later rearranged in the several languages due to the loss of the inclusive/exclusive opposition and the spread (from the noun?) of the category of duality. The hypothesis is at best unverifiable; typological considerations could be invoked to decide whether it is even possible.

Dual forms of all three persons are found only in Indo-Iranian and Balto-Slavic (Baltic has of course a single form for all numbers of the 3 p.); Greek has basically only 2 and 3 du., Germanic (Gothic alone) only 1 and 2 du. The forms are set forth conveniently in Meillet, Intro.[8] 230;

for the other languages see especially Stang. Verbum 223-4, 236; M.M. Guxman, Srav. gram. germ. jaz. 4.343-4, 352, 364; Schwyzer, Gr. Gr., 1.666-7. A partly speculative analysis in Kuryłowicz, Infl. Cat. 150-6.

In the 1 du. we have forms in initial -u̯- and variable vocalism : Gāth. primary -vahi secondary -va, Skt. prim. -vas, sec. -va̯, Goth pres. -os (bidjos), pret. -u (magu), opt. -ai-wa, OCS -vě, other languages also -va, Lith. -va < *-vā. Greek shows an isolated 1 du. in Argive ὄγωγις· ὄγομεν Hsch., for -ωFις, but the -ι- is problematic. Here as in the singular and plural, it is the secondary ending which is basic: VAv. -vahi repeats 1 pl. -mahi (*-me/osi), and it is doubtless significant that Skt. prim. -vas is not attested at all in the RV. Goth.-os is reconstructed as *-ō-u̯es, with a very surprising lengthened thematic vowel -ō-; it is perhaps significant that the only very well attested 1 du. forms in RV (11x) are thematic vowel subjunctives in -ava (Avery, JAOS 10.311), from both thematic and athematic stems. Goth -u can continue *-u̯e/o or -u-u̯e; opt. -ai-wa is probably after 1 pl. -ai-ma (Guxman, p. 353). Baltic and Slavic agree in -va < *-u̯ā, with Slav. -vě due to the influence of the pronoun vě.

For Kuryłowicz, the 1 du. ending arises from a differentiation of 1 pl. -me/u̯e, cf. Hitt. 1 pl. -u̯eni but -meni after -u-. On the other hand such cases of complementary distribution may be only late, like that of the enclitics -a/-i̯a 'and'. For the etymology of these two distinct particles see Celtica 6.16 (1963). Clear evidence for the late character of their complementary distribution (-C + a / -V + ya)

is the form memal-ya cited by Friedrich, Heth. Wb. Erg. 3.9 from KBo XV 34 III 8 and 36 I 4 and 11. An alternative would be to see in either the 1 du. ending *-u̯e or Hitt. 1 pl. -u̯en(i), or both, the same first person mark -u- that we have in 1 sg. pret. -u-n and Luv. 1 sg. pres. -u-i. In this case we might assume that a partial replacement of *-u, *-u̯e by *-m, *-me in the basic 1 sg. and 1 pl. function resulted in the relegation of old *-u̯e to a new 1 du. function in a part of the Indo-European area. See Celtic Verb 105.

For 2 and 3 du. the forms vary widely; they have in common only an initial -t-. We have Skt. prim. 2 du. -thas 3 du. -tas which surely represent a differentiation of a single form -tas; sec. 2 du. -tam 3 du. -tām, which agree with Gk. sec. 2 du. -τον 3 du. -τᾶν (Att. -τῆν). In the primary endings Gk. -τον serves for both persons, a syncretism which attests the derived character of the primary endings as against the older secondary endings. Tocharian B has a pres. 3 du. -tem < *-ton +V; the remaining Tocharian dual endings are entirely obscure (pret. 3 du. B -āis A -enas, ipv. 2 du. mid. -ait), though the diphthong -ai- recalls that of the Indo-Iranian thematic 2, 3 du. mid., Ved. -e-the, -e-te, -e-thām, -e-tām, Av. -āi-ϑe, -aē-tam, on which see Kuryłowicz, Infl. Cat. 155. Avestan shows only 3 du. forms, prim. -tō (-ϑō) < -tas, sec. -tąm < -tam (as against Ind. -tām, Gk. -τᾶν). Gothic has 2 du. thematic -ats, pret. -u-ts, opt. -ai-ts, athem. -ei-ts, which may be reconstructed as *-te/os; but the thematic vowel -a- before it in the present cannot be original. The connecting vowel -u-

in the preterite must be after the plural. Baltic has 2 du. -ta < -tā, agreeing with Slav. -ta. In the 3 du. Slav. has both -te and -ta, which could reflect primary *-te(s), secondary *-tā, as suggested by Kuryłowicz, since they function as both primary and secondary endings. But in view of the fact that the first and second persons did not evidently distinguish primary and secondary forms in the plural in Indo-European, it is surely artificial to seek such a distinction in the dual.

III. Other endings: their origin and diffusion.

§1. I have purposely avoided the question of the ultimate etymology of the desinences themselves. Compare the bibliography given by Schwyzer, Gr. Gr. 1.646 and 657, many items of which are concerned with this problem: in particular Hirt, IF 17.36 ff., Idg. Gr. 4.83 ff., and Benveniste, Origines 172-3. In my opinion, the etymology of the endings must represent a question of secondary importance, so long as we do not know the syntactic conditions under which they might have originated. Both Hirt and Benveniste have offered purely formal--morphological--evidence for the nominal origin of the verbal desinences: as Benveniste has shown, Greek forms such as 1 pl. Dor. εἰμές Att. εἰμέν agree in every respect, vocalism of root and suffix, ending, and accent with neuters such as αἰ(F)és, αἰ(F)én : *$\underline{h_1 es\text{-}m\text{-}és}$ *$\underline{h_1 es\text{-}m\text{-}én}$, *$\underline{h_3 ei\text{-}w\text{-}és}$ *$\underline{h_3 ei\text{-}w\text{-}én}$. But the fact remains that the first two are finite verb forms of the first person plural, and the second two neuter nominal forms (functioning as adverbs, moreover). The two are wholly distinct syntactic categories, and to find a syntactic path from the latter to the former, or a point of syntactic or functional overlap of the two, remains a task for the future.

§2. In one case, however, it is possible to perceive the channel between nominal and verbal forms: the nominal sentence, where a nominal form syntactically constitutes a predication, in the third person. Benveniste has shown in several well-known articles that the third person is the zero-person, the non-person. Cf. BSL 43.1-12 (1946); For Roman Jakobson 34-37 (1956); JPsych. 1958.257-65 = Problèmes de linguistique générale 225, 251, and 258 ff. See also Celtic Verb 90 ff.; Kuryłowicz, Infl. Cat. 148 ff. For this reason it is syntactically possible to have complete or partial semantic equivalence (overlapping) between omnis homo mortalis, with a nominal predicate, and omnis homo moritur, with a verbal predicate. Similarly a single nominal form could itself constitute a predication, in Indo-European, of the type nox 'it is night'. Whence the possibility is opened for a verbal interpretation, since the normal minimal subject + predicate sentence is a single finite verb form: 'it nights'. On the nominal sentence in Indo-European, see Benveniste, BSL 46.19-36 (1950) = Problèmes 151 ff.; for the type nox, Watkins, Symbolae Kuryłowicz 351-8.

The functional status of the third person as the zero-person has as its formal consequence the general linguistic tendency toward formal expression by the zero-sign; this means that in the given syntactic function of predicate, a nominal form may be reinterpreted as a verbal form with 3 sg. zero-ending: noun *nek^{w}t → 3 sg. verb *nek^{w}t-Ø. But there exists also the further and counter-tendency to endow the 3 sg.

ending with phonetic body, and give it overt expression like the other desinences; the particularly favorable situation is one where the contrast of root with enlargement (Benveniste's élargissement) with unenlarged root permits a segmentation, i.e. the imposition of a morphemic boundary. To illustrate: the contrast *nek^{w} ~ *nek^{w}t imposes the segmentation *nek^{w}-t, resulting in the reinterpretation of verb *nek^{w}t-Ø (root nek^{w}t + 3 sg. zero) as verb *nek^{w}-t (root nek^{w} + 3 sg. t). The way is then opened for the further propagation of the new ending -t, if the circumstances are favorable.

For the theoretical foundations and further illustrations see Celtic Verb 97-106. An alternative consequence of this development, and one equally important in the history of Indo-European, is the maintaining of the 3 sg. zero-ending, and the interpretation of the segmented form *nek^{w}-t-Ø as root nek^{w} + suffix t + 3 sg. zero. In this case the -t- may be propagated as a derivational suffix (e.g., of the present tense) elsewhere in the system.

§3. There is in fact an intermediate stage between *nek^{w}t-Ø and *nek^{w}-t, which appears to have had significant repercussions in Indo-European:: a stage which may be symbolized as *nek^{w}-t + Ø, where t has the status of an accessory mark, a redundant feature of the basic ending which is zero. In this case the -t- may then spread elsewhere in the system as a redundant feature; an accessory added to other endings

(including zero), and ultimately prevailing over the basic ending without such mark. The replacement of 3 sg. middle -o by -t + o > -to (Ved. aśaya-t, OHitt. kiya by ḫeẽto, Hitt. kitta : ĥei-o → ĥei-to) is an illustration (see below), as is the replacement of 2 pl. -e (Ved. cakr-á) by -t + e > -te (cf. Kuryłowicz, Infl. Cat. 153).

The basic 3 sg. ending -t of the Indo-European athematic paradigm owes its existence to precisely such a process. Compare the root dhē-: enlarged by -t-, we have the nominal form *dhōt in Lat. sacerdōs (*sakro-dhōt-), but the same form as root + 3 sg. verbal ending, *dhō-t(i) in OSax. dōt, OHG tōt. The status of the -t- as a redundant root-enlargement, with no semantic value, is still preserved in Indic in the root nouns of the structure T(e)R-: vṛt-, ruc- but -kṛ-t-, -ci-t- like -dhō-t-.

We thus assume the genesis (probably in a restricted number of instances) of a redundant feature -t in the 3 sg., beside the fundamental ending zero. We have then competing 3 sg. desinences: (zero) ~ (t + zero). It is precisely in accord with Kuryłowicz's first law of analogy (Esquisses ling. 70) that the compound, bipartite morpheme (t + zero) will tend to prevail over the simple morpheme (zero) consisting of one of the two elements. Similarly the optional desinential component -i, the renewal is 3 sg. -(i) → -t(i); see below.

It is not only in the active that we may observe the same diffusion. The oldest 3 sg. middle ending is *-o, which is thus zero-person but middle (not active = zero) voice. The generalization of t as a redundant feature of the zero-person (3 sg.) function entails its spread here as well, whence the renewal 3 sg. mid. -o → -to (i.e. t + o), which will be documented in full in subsequent chapters. It should be noted that this explanation of the genesis of -to elimin-

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its spread here as well, whence the renewal 3 sg. mid. -o → -to (i.e. t + o), which will be documented in full in subsequent chapters. It should be noted that this explanation of the genesis of -to eliminates the necessity of recourse to a proportion (nt : t = nto : to), as suggested by Kuryłowicz, Infl. Cat. 44. The latter proportion is in any case not satisfactory; following Kuryłowicz's own second law of analogy (Esquisses ling. 73) we expect the relation a : b to be basic form (de fondation) : derived form (fondée), or unmarked member : marked member, e.g. active : middle, singular : plural, whereas in nt : t (plural : singular) the relation would be reversed. But the replacement of simple -o by compound -t + o is a direct one, and no analogical proportion is necessary to account for it. See also ch. V §20 below.

§4. If the 3 sg. -t(i) is thus by origin a redundant feature, rather than a desinence proper, it follows that the earliest reconstructible athematic paradigm in the singular in Indo-European would have been simply

*g^{w}hen-m(i)
*g^{w}hen-s(i)
*g^{w}hen-(i).

The pattern 1sg. -m, 2 sg. -s, 3 sg. zero is thus isomorphic to that of

1sg. -h₂o, 2 sg. -th₂o, 3 sg. zero underlying the perfect, middle, and thematic conjugations, as will be shown in succeeding chapters.

The symbolic representation of the 2 sg. desinence, reconstructed principally on the basis of Ved. -tha, Gk. -θα (-σθα), Hitt. -ta, varies among writers on Indo-European subjects--sometimes in the work of a single author --as *-ta^{x}, *-tha, and *-th₂o (or the equivalent). In the present work I shall adopt the convention *-th₂o; not from a conviction that the desinence must have contained a laryngeal (which would be illusory), but because the assumption of a cluster of stop + laryngeal does explain the Indic aspirated stop in other cases (even if not really the Greek -θ-), and does explain the Greek vowel timbre a in other cases (a Greek a in an archaic desinence being otherwise an anomaly, and requiring explanation). The notation *-th₂o is a hypothesis, but still preferable to *-tha (which merely projects the form of one historical language indefinitely back in time), and to *-ta^{x} (which is a protestation of total ignorance).

§5. As will be discussed in full in ch. IX §1, Kuryłowicz has shown that the relations of person between the indicative (representational) and imperative (appellative) planes are such that while the fundamental, zero-person is the 3 sg. in the former, it is the 2 sg. in the latter. For this reason there exists a close relationship between 3 sg. indicative and 2 sg. imperative; both as functional zero-persons may manifest a formal zero-mark, and as such be formally

identical. Given the observable tendency for the imperative to preserve forms which have undergone renewal in the indicative (Lat. legite vs. legitis), the functional equation 3 sg. ind. = 2 sg. ipv. has as consequence that the 2 sg. imperative may preserve an older form of the 3 sg. indicative. Thus 3 sg. ind. *es-t(i) has undergone renewal by -t(i); the *es with zero ending it replaced, formed like 3 sg. *g^{w}hen(i) above, is preserved in the 2 sg. ipv. Hitt. eš, Lat. es. From the Indo-European point of view these Hittite and Latin imperatives may be 'neologisms', if the earlier form appears in Gāth. zdī 'be!' < *s-dhi. In the same way the original 3 sg. indicative of the thematic conjugation appears in the 2 sg. imperative in -e: Gk. λέγε beside 3 sg. λέγει, i.e. *lege-(i) formed like athematic *g^{w}hen-(i) above. The formation of the thematic paradigm will be discussed in full below, and the reconstruction there justified.

§6. But the indirect testimony of root athematic 2 sg. imperatives like Hitt. eš^{v}(ep, wek, hweš, et) is not the only evidence for an ancient athematic 3 sg. with zero-ending like *g^{w}hén-(i). We have the form preserved intact in 3 sg. indicative function in an archaic verbal category of Indo-Iranian: the aorist passive of the type jáni, ájani, jáni 'was born'.

As I have shown in Celtic Verb 103, this formation 'is in origin simply the bare root, the neutral verbal notion alone, in the 3 sg., the non-personal form, with zero-ending.' The -i is the same particle

which figures in -m(i) -s(i). The original full grade of the root is found in TeRT- roots, e.g. RV reci < *leik^{w}-i, yoji < *ieug-i, darśi < *derk-i, whereas TeR- and TeT- roots have developed vṛddhi already in Indo-Iranian times, e.g. RV avāci = Gāth. avāci, śrāvi = srāvi. That this is secondary is shown by the agreement between RV jáni and Av. jaini, as well as by Gāth. mraoi (=mravi) and especially api-vaiti. On the aorist passive and for comparable sigmatic forms, i.e. root + s + i beside root + i, see the discussion of the Indo-Iranian imperatives in -si, ch. X §13.

§7. The full grade accented root with zero-ending in the fundamental person, 3 sg. indicative and 2 sg. imperative, recurs finally in a small class of Vedic 2 sg. imperative middle forms, with a final -svā which functions as a 'reflexive' particle : yákṣva, mátsva, sákṣva (sac-), sākṣva (sah-, cf. sādhar-, aṣādha- for the lengthened grade), rásva, vámsva, and from a set root jánişvā. The (reflexive) pronominal origin of -svā (on which cf. Szemerényi, Syncope 314, 363 with references), with the attendant syntactic conclusions perhaps to be drawn, suggests that we have here forms of considerable antiquity.

§8. In the same way as for the element -t- we can explain the genesis of the morpheme -u- as desinence, as shown basically by Benveniste,

Origines 173. The -u- appearing in the perfect forms Ved. 1 and 3 sg. jajñáu, Lat. (g)nōu-ī OEng. cnēow (cnāwan), or Ved. paprau, Lat -plēu-ī is a root enlargement *gnō-u, *plē-u-, segmentable by contrast with unenlarged *gnō- (Gk. ἔγνω), *plē- (Gk. πλῆτο). The unenlarged root even occurs as a perfect in RV paprā́ (1x) beside papráu, cf. Av. perf. daδa beside Ved. dad(h)áu; for the Indic forms see the references at Thumb-Hauschild, Hdb.d.Sanskrit 1.2.391-2. This -u- element has been extracted as a regular 3 sg. desinence in the Armenian aorist mediopassive, e.g. cnaw 'was born', keraw 'ate' < *-ā-u̯ + V, and isolated eɫew 'became' <*é u̯ + V; cf. Meillet, Esquisse² 124. But while we can identify the element -u- as an original root-enlargement, we cannot explain why or how it came to be associated with the perfect (or the aorist in Armenian), nor can we account for its 1 sg. function as well as 3 sg. in Indic, or uniquely 1 sg. function in Hitt. 1 sg. pret. -u(-n), Luv. 1 sg. pres. -u(-i), or Tocharian B prakwa (-u̯ + pret. -ā), A yāmwe (-u̯-ai).

§9. I have discussed elsewhere the genesis of a 3 sg. desinence *-s, as well as the suffix -s- which is continued in the sigmatic aorist, from an original root enlargement, according to the pattern here discussed. See Celtic Verb 90-93, 97 ff., partly following Burrow, Asiatica (Festschr. Weller) 35-42, and IIJ 1.61-76 (1957). For a different explanation, see Kuryłowicz, Infl. Cat. 157. The personal ending -š is found for the 2 and 3 sg. in the Hittite hi-con-

jugation preterite (daš 'took') in the Indo-Iranian root-aorist optative (Av. -yå < -yās), and occasionally in the Indic root aorist.

Burrow cites the 3 sg. dhās from a house-sutra text (HGS 1,13.15). From the forms discussed by J. Narten, Sigm. Aor. 18-20, it is clear that dhās enters into a clearly definable series of "s-aorist" forms from roots in final long vowel, where the s-aorist is virtually confined to the RV alone. The forms are as follows:

aprās	'filled' (3 sg. 10x, 2 sg. 1x)	aprāt	AV, TB
(a)hās	'left'	ahāt	TB
apās	'drank' (3 sg. 5.29.8, see Narten 168, 139 n. 386)	apāt	RV
dhāsur	'put' (cf. dhās)	adhāt	RV
ayāsur	'went'	ayāt	RV (impf.)

All represent inherited roots in long vowel: *plē- (πλῆτο), *ghē- (ἐπέχημεν 'we reached', OE OHG gān 'go'), *pō- (πῶθι), *dhē- (τίθημι), *jā- (Lat. iānua). In none of these cases have we to deal with a productive sigmatic aorist formation, as attested by the later language; they represent an earlier chronological layer, that from which the sigmatic aorist is ultimately derived. The root enlargement -s in these cases could be and was in fact interpreted in either of two ways: as a 3 sg. desinence, whence the replacement of RV aprā-s ahā-s by AV, TB aprā-t ahā-t, with a more productive desinence; or as a suffix -s- with 3 sg. zero or underlying -t, whence 3 sg. dhās → 3 pl. dhās-ur, 3 sg. *yās → 3 pl. yās-ur. For probable Balto-Slavic

cognates of these forms see ch. XV.

In one case we have unequivocal comparative evidence for the root enlargement -s. The Hittite cognate of Ved. apās is the verb paš- 'swallow', whose inflexion hesitates between mi- and ḫi-conjugation : 3 sg. paši/paszi. The latter recalls auszi, another verb with root enlargement -s. The common root form is IE *pō-s; however Ved. apās was or came to be morphophonemically interpreted by native speakers, it is extremely unlikely that an Indo-European **pō-s-t or Indic **apā-s-t ever existed.

In the examples above we may observe the extraction of a morphological element from root final position, and its implementation elsewhere in the system, either with desinential or suffixal status: Indic dhā- : dhā-s(-), pā- : pā-s, Hitt. dā- 'take' : dā-š 'took', with the development of both 3 sg. -s and 'sigmatic aorist' -s-. Put formulaically, we may state that (R + s) → (R)-s, particularly but not only where (R) and (R + s) are competing root forms. The situation is merely one example of a more general process of the creation of affixes from root final elements : the spread of set at the expense of anit suffixal forms in Indic and other Indo-European languages is another example. Thus (R + ə)-mon- → (R)-əmon- (Ved. nom. -man- ~ ïman-); (R + ə)-s- → (R)-əs- (Ved. fut. -sya- ~ -iṣya-). The process may continue; Celtic shows clear evidence for a suffixal sequence *-mon- → *-amon- (from stems in final ə) → *-iamon- (from stems in final i), and similarly *-ti- → *-ati- → *-iati-. See the full discussion in Celt. Verb §15.

§10. This continuing process appears to have occurred in the case of the history of the affix -s as well. For in Hittite beside the 2-3 sg. preterite -š in daš 'took', tarnaš 'left', we have also a 2-3 sg. -iš, which appears in such forms as dāiš 'put', ḫāiš 'believed', lāiš 'loosed', dāliš 'left (alone)', and possibly also after stop in šakkiš 'knew', akkiš 'died'. In ḫā-iš the segmentation must be as indicated, in view of both the Hittite forms 1 sg. ḫā-mi 2 sg. ḫā-ši, and the etymology (: Lat. ō-men, Benveniste, Hitt. et i.-eur. 10). We may see the channel for the creation of the ending -iš in such a 3 sg. preterite as pāiš 'gave' < pē + ai-s, where the i was originally part of the root, *ai-(*ǫoi-) in Toch. B ai- 'give', Gk. αἶσα 'fate', αἴνυμαι 'take'. The Old Hittite apophonic forms with causative suffix -nu- 3 pl. pret. zinuer, iter. zinušk- might suggest that in 3 sg. pret. zāiš 'crossed' we have another root in an inherited diphthong, though the 2 sg. pres. zāši beside iter. zaiškiši in the archaic Gilgameš mythological cycle (KUB XXXIII 124) makes this rather less certain, cf. §11 below.

For dāiš 'placed' we assume a regular reflex of *dhē-is. For the phonetics compare the following. The 3 sg. pres. dāi < *dhē-ei, with the ending *-e + i which is monophthongized to Old Hittite -e (mazze, warše), later -i; 2 sg. ipv. pāi 'give', < pē-ai, with the preverb *pē (Benveniste, Hitt. et i-cur. 33) and the diphthong *ai which is monophthongized to OHitt. e, Hitt. i, as in the 1 sg. -ḫe, -ḫi; 3 sg. pāizzi 'goes' < *pē-eiti, 2 pl. ipv. paittcn < *pē-(e)ite(n), uncompounded in ipv. 2 pl. ittcn : RV éta(na) or ita(na). That the i

of dāi(š) is a laryngeal reflex seems to me wholly implausible, though this view is suggested or approved by Risch, Corolla Ling. 189-98 (dāi- < *dheə$_1$-), Puhvel, Laryngeals 55, Cowgill, Lg. 39.267 (1963), and Ivanov, Obšč. sist. 78 et passim. Alternatively one might wish to see in dāiš an enlarged root *dhē-i- (the phonetic treatment being identical), with the same enlargement as in Slav. dějǫ, Latv. dêju, as suggested by Pedersen, Hitt. 113. In this case daiš would be simply another channel for the extraction of a suffix (desinence) -is.

The Old Phrygian form εδαες (apparently with augment ε-) has been equated with Hitt. daiš, cf. Pedersen Hitt. 192. If this is correct, then we should perhaps compare within Phrygian itself also the New Phrygian form εσταες (Fredrich, Kleinas. Sprachdenkmäler, Neuphryg. 31), which could stand in relation to *stā- as εδαες to *dhē-. But until the meagre Phrygian inscriptions are more clearly explicated--which may well never occur--such speculation must remain at least uncertain.

The element -is- appears in one other Indo-European language: Latin, where it appears in a variety of forms in the perfectum. Cf. -is-tī, -is-tis, -ĕrunt < *-is-ont; -eram < *-is-ā-, -erō < *-is-e/o-; -issem < *-is-sē-, -erim < -is-ī, and Kuryłowicz, Infl. Cat. 125-6. The 2 sg., 2 pl., and especially 3 pl. forms -is-tī, -is-tis, *-is-ont can be most simply accounted for by the assumption of a lost 3 sg. in *-is with zero-ending; the spread of the form would then be wholly parallel to that of the s- aorist. The *dhē-k-is (Italic *fēkis) postulated to underlie OLat. fēcĕrunt is admittedly hypothetical and

speculative in Italic; but note that it differs from the *dhē-is of Hitt. dāis only by the presence of the 'union-consonant' -k-. See the fuller discussion in ch. XI §§12, 14.

§11. It has been long recognized that the suffixal -s- of Indo-European is closely connected with and parallel to the suffix -sḱ-; the latter is a conglomerate -s-ḱ- built on the affixation of -ḱ- to stems already characterized by -s-, and the distribution of the two is often entirely parallel. Archaic examples are *pās- (*poH$_2$-s-) in Hitt. paḫš- 'protect', OCS pas-ǫ, Lat. pās-tor beside *pā-sḱ- (*poH$_2$-sḱ-) in Lat. pāscō, or *k$^{\text{w}}$n̥th-s- in OIr. céssaid beside *k$^{\text{w}}$n̥th-sḱ- in Gk. πίσχω. As secondary suffixes we have Hitt. iter. -šk- beside Luv. and Hierogl. Luv. -š-(-s-); also Lat. -ē-scō beside Hitt. -e-š-, with identical function. See Brugmann, Grdr.^{2} 2.3.350 ff.; Ivanov, Obšč. sist. 139-174, Sbornik statej...pamjati... M.V. Sergievskogo 105-119 (1961; written in 1953); Watkins, Celtic Verb 74-77, ÉC 12.131-4 (1964).

The observable parallelism between the suffixes, derived from root enlargements, extends to the forms with preceding -i-. The suffix -sḱ-, particularly in Greek and in Armenian, shows commonly the variant -isḱ-, significantly after long vowel as well as after consonant. Cf. Gk. θυῆσκω, κλῄσκεται, μυῆσκεται, Lesb. θνᾱισκω, μιμνᾱισκω, as well as ἁλίσκομαι (Thess. ϝαλισσκῆται), εὑρίσκω, ὀφλισκάνω: Schwyzer, Gr. Gr. 1.709.

In Latin we have both the suffix forms -sḱ-, in nāscor, -gnōscō, and -isḱ-, in the type re-miniscor, pacīscor, on which cf. ch. V §§ below. The long vowel of the latter type probably represents an analogical generalization of the vowel lengthening before (originally accented) secondary suffix, as in the type solū-tus, nominal aurī-tus, or Ved. passive śrū-yáte, discussed by Kuryłowicz, Apoph. 125-6. The suffix *-sḱe-/-sḱo- was originally accented, cf. Ved. uccháti, icchāti, r̥cchāti, pr̥cchāti.

The same suffix form appears in Armenian with modal force as the subjunctive aorist and (in part secondarily) present : aor. subj. 1-3 sg. beric' berc'ē < (*bher-)isḱō -isḱeti. See Meillet, Esquisse² 122, and especially R. Godel, REArm. 2.30 ff. (1965). We thus obtain a symmetrical pattern of elements, all ultimately disengaged from root finals, of the shape

-s-	-is-
-sḱ-	-isḱ-

The Armenian subjunctive shows the form -ic'- < *-isḱ- also after long vowel, just as in Greek, in the aorist subjunctive of dnem 'place': 1, 3 sg. edic' (with secondary augment), dic'ē. The preservation of unstressed -i- shows that it goes back not to -i- < *-ē- but to *-iy- < *ē + i; cf. Meillet, Altarm. 22-3 (wrongly contested by Godel, op. cit. 36). In view of the thoroughgoing parallelism of the forms in -(i)s- and -(i)sḱ-, Arm. dic'- < *dhē-isḱ- is a further argument for

the analysis of Hitt. dāiš as *dhē-is. Observe also that the Armenian aorist subjunctive (functioning regularly as a future) with its thematic paradigm -isḱ-e/o- is virtually identical to the Latin future perfect, with -is-e/o- : compare fēcerō < dhē(k)-is-ō with (e)dicʿ < dhē-isḱ-ō, or Lat. ēgerō (ēg- replacing *āg-) < *āg-is-ō with acʿic < *ag-isk-ō. Mere coincidence?

We may note finally that Armenian shows both the suffix forms -isḱ- and -sḱ-. In the subjunctive the latter appears in the form 1, 3 sg. tacʿ, tacʿē from tam 'give', reflecting *də-sḱ- (Godel, op. cit. 36). The zero-grade of a long vowel root before -sḱ- is paralleled by Gk. βάσκε : ἔβην, ἄφασκον : φημί. In the indicative we have not only extended presents in -cʿ-anem, where the -cʿ- < -sḱ- is probably inherited (harcʿ-anem 'I ask' : Skt. pr̥cháti), but especially the aorists in -cʿ-, which are an Armenian creation, recalling the Ionic preterites of the type φέρεσκε. Cf. 1,3 sg. lcʿi, elicʿ 'filled', kacʿi, ekacʿ 'stood' < *plē-sḱ-, *gʷā-sḱ-, where we may note the full grade of the long vowel root, at least in the former. Hitt. daškizzi, iterative of dā- 'take', probably corresponds to the latter type, i.e. with full grade *dō-sk-. But the possibility should at least be noted that it reflects a zero-grade *də-sḱ-, and thus corresponds exactly to Arm. tacʿē < *də-sḱ-eti. In this case we would have to say that the apparent expulsion of ə in zikkizzi = t-skezzi, iterative of dai 'places', ostensibly from *dhə-ske-, is analogical: perhaps to the root allomorph tiya- (3 pl. tiyanzi). I presuppose *dhə-i̯e- > tiya- /d(i)ya-/, as against original *di̯- > ši- in OHitt. šiušmiš < *di̯eus-mi-s. For the phonetic treatment of *dhə-i̯e- > tiya- cf. also the

verb tiya- 'step, stand' (archaic 3 sg. mid. tiyari [ch. V §5]) < *tə̆-ie̯-, with an s-less variant of the root *stā- (*steH-) as in OIr. ·tá. Pedersen's etymology is to be preferred, pace Friedrich, Heth. Wb. s.v. tiya-.

Hitt. iter. daškizzi, pret. dāš beside zaiškiši, zāši noted above (§10) show that Hittite as well had both suffix forms, -šk- and -išk-.

In the subjunctive of the Armenian aorist we get a cumulation of the two suffixes: lcʿicʿ lcʿ cʿē < plē-sk̂-isk̂-, kacʿicʿ kacʿcʿē < gʷā-sk̂-isk̂-. This pattern has been discussed by Ivanov, Obšč. sist. 150 (with references), comparing also such forms as Hom. βοσκέσκοντο, Toch. B yaskask- 'ask', and Hitt. uškišk-. The phenomenon is not old, but (save in Armenian) merely attests the loss of the original iterative force of the first -sk-; the forms are parallel but independent. In Armenian, where each morpheme -cʿ- has a clearly marked and independent function (aorist, subjunctive), their concatenation is entirely predictable in the conjugational pattern.

IV. The thematic conjugation

§1. Traditionally, Indo-European studies have recognized beside the athematic type *g^{w}hen-t(i), a thematic conjugation, characterized by the presence of the apophonic vowel -e/o- after the root, and a set of desinences in large part identical with those of the athematic type, but differing in the form of the 1 sg. primary ending. The traditional view may be found set forth in Meillet, Introduction[8] 202-203 and 237; Brugmann, Grdr.[2] 2.3.1. 113-138; Hirt, Idg. Gram. 4.177-185.

With the thematic verb it is customary to distinguish two types: one accented on the root syllable, in the full grade, which I shall term 'barytone', and one accented on the thematic vowel, with zero grade root, which I shall call 'oxytone'. Each type is found with both primary and secondary endings. Those with primary endings are presents, and those with secondary endings are usually either imperfects (like Skt. ábharat) or aorists (like Arm. eber). But they may be also presents, in Celtic (OIr. conjunct ·beir) and Indo-Iranian (Ved. injunctive bhárat: unaugmented form with secondary ending). Where the same root shows both full grade barytone and zero grade oxytone, they may be opposed as present and aorist (like Gk. λείπω : ἔλιπον); but this is rare outside Greek.

Typical paradigms in the active voice are the following:

		barytone			oxytone
primary:	Lat.	vehō	*-ō	Skt.	tudámi
		vehis	*-esi		tudási
		vehit	*-eti		tudáti
		vehimus	*-ome		tudámas
		vehitis	*-ete		tudátha
		vehunt	*-onti		tudánti
secondary:	Gk.	ἔφερον	*-om		ἔλιπον
		ἔφερες	*-es		ἔλιπες
		ἔφερε	*-et		ἔλιπε
		ἐφέρομεν	*-ome		ἐλίπομεν
		ἐφέρετε	*-ete		ἐλίπετε
		ἔφερον	*-ont		ἔλιπον
pres. pple.		φέρων		aor:pple.	λιπών

In the case of the thematic paradigm as in that of the athematic paradigm, internal reconstruction leads us to assume that the basic and older paradigm is that with secondary endings; compare the numerous Indic and Iranian injunctives from thematic stems, as well as the conjunct forms of Old Irish thematic forms. Yet we have here a

significant difference from the athematic type, in that the suppression of the particle -i of the forms with primary endings does not lead to their complete merger with those with secondary endings. The two still differ in the 1 sg. : in the one case a set *-ō -es -et, in the other a set *-om -es -et.

§2. There is a further attestation of the same thematic paradigm, but in a different function: the subjunctive of athematic verbs, preserved most clearly in Indo-Iranian and Greek, but residually also in Italic and Celtic. The Vedic and Gathic subjunctives shows both primary and secondary endings in certain persons, a paradigm in the singular (i 'go'):

ayā(ni)	*-ō
ayas(i)	*-es(i)
ayat(i)	*-et(i).

The -ni of the 1 sg. is a particle. This pattern is important in showing that the generalization of 1 sg. *-ō (rather than *-om) is anterior to the fixation of the particle -i in the other persons as present indicatives, i.e., the replacement of the 'injunctive' (unaugmented secondary) endings by the primary endings in the basic presential function; 1 sg. -ō is equally at home with

secondary endings and primary endings. Kuryłowicz, Infl. Cat. 138, suggests that the thematic present type *ueghet(i) is older than the subjunctive type *g^{w}emet(i); but the equivalence of primary and secondary endings in the latter, attested in Indo-Iranian, is surely an argument in favor of its greater antiquity.

The subjunctive of thematic stems shows an apparent cumulation of suffixes, -e/o- + -e/o- > -e/o-, and in Indo-Iranian the same alternation of primary and secondary endings: sg. -ā -ās(i) -āt(i).

§3. It has been suggested that the antiquity of the secondary endings is supported by Greek evidence: the sporadic thematic 3 sg. subjunctive ending -η, -ē in a variety of dialects, by many scholars held to presuppose *-ēt; cf. Schwyzer, Gr. Gr. 1.791, but contrast the silence of Meillet-Vendryes Traité^{2} 322 ff., and the views of Buck, Greek Dial.^{2} §141, who interprets them as developments of -ηι. The short vowel (athematic) subjunctive shows primary endings in some dialects. e.g. East Ionic (Teos) ἐκκοψει ποιησει (Schw. 710), but Cyren. επει δε κα ποιησες (Solmsen-Fraenkel 39 B 37) has an unambiguous secondary ending. On the other hand Cyrenaic has only -ει in the 3 sg. subjunctive (πριν κα αποδεκατευσει ibid. A50), and in fact no Greek dialect appears to show a 3 sg. short vowel subjunctive in -ε or sigmatic -σε, despite Schwyzer, Gr. Gr. 1.661, 791. Beside the secondary 3 sg. -η, it has been supposed that the epic

tradition indirectly attests a primary 3 sg. *-ησι < *-ητι, in the forms of the type ἐθέλῃσι; cf. Chantraine, Gr. hom. 1.461. But the form can also be explained as a cumulation of -η + σι, cf. Meillet-Vendryes, Traité² 324.

While the Greek subjunctive thus might show in various dialects both the secondary and the primary ending in the 3 sg., -η ~ *-ησι, all dialects show only the primary ending in the subj. 3 pl: Arc. κρινωνσι (Schw. 656.5), which is suspicious. The 3 pl. thematic subjunctive in Indic and Iranian shows only the secondary ending -ān < *-ōnt, never the primary ending. Since it is in any case necessary to assume that the long vowel before *-nt(i) was analogically restored in the Greek form (after being shortened by Osthoff's law), we may assume that the whole 3 pl. subj. *-ōnti and its reflexes is a Common Greek innovation.

As we shall see in greater detail in chapter IX §5, it is only the 1 sg. in -ω of the Greek subjunctive which can be compared with related forms in other languages; for the remainder of the paradigm of the short-vowel subjunctive Greek doubtless has at the outset forms identical with the Greek thematic indicative.

§4. There is another Indo-European dialect which shows much clearer evidence for the secondary endings: Italic. It was Adalbert Kuhn who first made the equation of the Lat. future erit

with the Sanskrit subjunctive asati, and since then the reconstruction *eseti has counted as one of the surest and best established in Indo-European studies. Yet it is a 'mirage of comparative grammar', as basically seen by Meillet-Vendryes, Traité[2] 347. For just as archaic Latin sied (Duenos inscription) with secondary ending was early replaced by siet, so the archaic Latin future esed, attested in the Vth century Forum inscription, was early replaced by erit with primary ending. The construction of the text, quoi ho[nce?...] sakros esed must be of the Plautine type si uenis, gaudebo; that esed here should stand for the imperfect subjunctive esset, the only other possibility, i.e. a contrary-to-fact clause, would make no sense in an inscription of this character. It follows that the proper equation for historical purposes is OLat. esed : Vedic asat; we may note that asat is four times as frequent in the Rig-Veda as asati (24:6). The Indo-European form had the secondary ending, and the correct paradigm reconstructible from the comparison of Latin and Indic is *esō *eses *eset. This thematic paradigm, preserved in the residual modal (subjunctive-future) function, is clearly on an earlier chronological level than the banal thematic present type.

There may exist other traces of a similar paradigm in Latin. On the evidence of Indo-Iranian, present and subjunctive of the athematic verb 'to go' would have been regularly

*eimi	*eiō
*eisi	*ejes
*eiti	*eiet,

whence in the earliest Italic, with the loss of intervocalic yod (cf. trēs) and final -i, but the preservation of the diphthong ei, the anomalous paradigms

*eim	*eō
*eis	*ēs
*eit	*ēt.

The 1 sg. pres. *eim presented a sequence otherwise entirely absent from the Latin phonological pattern. It is quite possible that when the original subjunctive-future paradigm was replaced either in the future function by *eibe/o- (ībō) or in the subjunctive function by *ea- (eam), it was specifically the old 1 sg. subjunctive-future *eō which was utilized to replace the aberrant 1 sg. present *eim, whence the Latin paradigm eō īs it.

§5. The thematic subjunctive is found in Celtic only in the present subjunctive of the substantive verb and the copula in Old Irish. The conjunct singular paradigm of the substantive verb is

·beo	<	*(b)esō
·bee		*(b)eses or *(b)esī
·bé		*(b)eset.

The initial b- is taken over from other forms of the verb, cf. OIGr. §787; the original form without b- is preserved in the 3 p. forms of the subjunctive of the copula with cía 'although' and ma 'if' (regularly followed by absolute verb forms with primary ending):

3 sg. cid, ceith	<	*(ce +)eseti
mad, maid		*(ma +)eseti.

The 2 sg. ·bee, attested only in the ἅπαξ slán·bee gl. sana sis, is surely conjunct, like the greeting slán·seiss 'hail!', lit. 'sanus sedeas' (not 'sedebis', pace Thurneysen, OIGr. §384); were it absolute, the word order would be reversed. 2 sg. bee and 3 sg. ·bé are both probably graphic for /be:/, and the 2 sg. thus conceivably reflects *(b)eses rather than *(b)esī. Such a 2 sg. form would be the only one in Irish to show any evidence for a thematic 2 sg. *-es; elsewhere we have only thematic 2 sg. *-ī < *-ei. But the evidence from a single instance of bee is too slender to permit more than the bare suggestion of a possibility.

§6. The barytone thematic present had clearly an extraordinary productivity in the prehistoric, in some cases historical stages of virtually all the Indo-European dialects. It is the cornerstone of the primary verb in Greek, Latin, Celtic, Germanic, Baltic, and Slavic, and it is characteristically for the native Hindu grammarians the "first" class. Yet this very productivity is an index of lateness. It was Meillet who saw this most clearly, in a famous article entitled "Caractère secondaire du type thématique indo-européen," BSL 32.194-202 (1931): "Les formes qui, à date historique, sont normales sont elles qui ont subi le plus de refections." The widespread distribution of the thematic present formation suggests that it cannot be very old, and as Meillet has stated, the great mass of radical thematic forms is due to parallel development, not to the preservation of Common Indo-European forms.

The internal reconstruction of the chronological levels of the thematic conjugation has been done largely by Meillet in the above article, and Renou, "Le type védique tudáti", Mélanges Vendryes 309-16 (1925) and "A propos du subjonctif védique," BSL 33.5-30 (1932), together with the important but unpublished Yale dissertation (1960) of George Cardona, The Indo-European thematic aorists.

We have four categories: the barytone thematic present (Skt. váhati), the oxytone thematic present (Skt. tudáti), the oxytone thematic aorist (Skt. ávidat), and the thematic vowel subjunctive (Skt. áyat(i)). Their dialectal distribution varies. The type

vahati is pan-Indo-European, with the significant exception of Hittite, and is thereby a priori recent, in terms of Meillet's methodological principle quoted above.

§7. The tudáti type is common only in Indic, with isolated forms in other Indo-European languages. Already in 1878 de Saussure suggested that it was not a formation of Indo-European date (Mémoire 10), and Renou (loc. cit.) showed convincingly that it resulted in large part from thematicization of root presents: AV kṣiyáti 'dwells' from RV kṣéti kṣiyánti is typical, as in the variation in root vocalism between Goth. qiman 'come', OHG queman, and ON koma, OE cuman, OHG coman, cf. Ved. ágan ágman. Cf. also Renou, Gram. véd. §326 : "Il est possible que la catégorie entière, ou, du moins, les formes d'indicatif présent se soient constituées secondairement, utilisant soit d'aciennes bases d'aoriste, soit (plus vraisemblablement) des thèmes nominaux en -a- à degré réduit, lesquels abondent à côté des présents du type tudáti."

§8. The thematic aorist is attested sporadically in several Indo-European languages, again with the significant exception of Hittite; it has its apogee in Greek, with some 120 roots (Cardona, op. cit. 55, following Schwyzer, Gr. Gr. 746-8), beside about 80 roots in Veda and Brāhmaṇa (Whitney §847). In Vedic its attestation rises from

RV to AV, alone of all the forms of aorist, which is a sure mark of its recent character. Thurneysen stated categorically in 1894 (IF 4.84) that no thematic aorist was inherited except ἐϝιδε = Ved. ávidat = Arm. egit. Cardona, after an exhaustive winnowing of all the evidence in the Indo-European languages, comes to virtually the same conclusion as Thurneysen: with the exception of *uide- all the thematic aorists of all the languages represent independent parallel creations of post Indo-European date.

Cardona adds also *ludhe-, on the evidence of Gk. ἤλυθον, Toch. A läc B lac, and OIr. luid. But as I have shown elsewhere (Celt. Vb. 66), the root *leudh- is the etymon of Toch. lut-, rather than lät-(länt-); and OIr. luid is by its inflexion, 1, 2 sg. lod, 3 sg. rel. luide, 1 pl. lodmar, 3 pl. lotar, clearly an old perfect *loudh-/ludh- with the expected generalization of the zero-grade, and not a thematic aorist (thus correct OIGr. §699). Hence we are left with Thurneysen's *uide- as the only thematic aorist of possible Indo-European antiquity. One form alone is poor evidence on which to postulate a whole category, and as we shall see below, ch. VII §1, that one form can be explained.

An important consequence of the fact of the post-Indo-European origin of both the tudáti type and the thematic aorist is that the hypotheses advanced by Kuryłowicz on the origin of the thematic conjugation, as well as the distribution of the timbres e and o in the paradigm, must be revised. Kuryłowicz has suggested in several places that the original locus of the thematic vowel is the cases where it

appears under stress (i.e. oxytone): cf. Apoph. 71-74, where the prototype is assumed to be the aorist type ἔλιπον, or Infl. Categ. 116ff., where the original is assumed to be a tudáti-present.

§9. Of the roster of thematic types one alone remains with a genuine claim to antiquity: the thematic subjunctive. It is the great merit of Renou to have first demonstrated, by an examination of the Vedic materials, the layers of formation of the a-subjunctive and its relation to the normal thematic present. We may reproduce his conclusion here (BSL 33.5): 'Divers faits de morphologie et d'emploi, dans le verbe védique, invitent à poser l'existence ancienne d'un éventuel thématique, indépendent de toute catégorie verbale: de cet éventuel dériveraient d'une part le subjonctif en -a- (qui dans le Rgveda est encore formé quelquefois sur un thème autonome), d'autre part, au moins en partie, les presents du type bhavati.' Such a stem is kara-, 3 sg. kárat, karati, beside the present kr̥nóti and aorist ákar; similarly gama- in gamat, gámanti, or yama- in yámati, yamam. In the individual cases it is often impossible to assign a form to the subjunctive (present or aorist), injunctive, or "attenuated indicative". We have a formal class whose functional alignments are not yet fixed.

K. Hoffmann, MSS 7.89-92 (1955), maintains that gámanti, gamat are unequivocally root aorist subjunctives; but despite his arguments there remain numerous ambivalent instances (e.g., RV

7.32.10) and the well-attested 3 pl. ipv. gámantu in partieular shows that the underlying *gamant must be a pure 'Verbindung einer Tätigkeit mit einer Person, ohne Rücksicht auf Tempus und Modus', as Thurneysen defined the injunctive.

Aceepting these views, Kuryłowiez, Apophonie 28, was able to show that the functional value of this 'éventuel', "valeur mi-réelle, mi-modale", is a result of its having been ousted from the aspecto-temporal system toward a modal acceptation by the pressure of new present (indieative) forms; it is, so to speak, an indicative déclassé.

Renou's final statement on this category appears in a posthumous article, BSL 61.3 (1966): 'De proche en proche on observe que le subjonctif du RV. eoineide pour la forme avec un indieatif thématique; que le prétendu <<injonctif>> varie entre des valeurs modales (ou du moins, éventuelles) et eelles d'un présent generalis ou d'un prétérit non <<marqué>>, le tout étant denué d'indices morphologiques.'

§10. Yet if the postulation of an independent éventuel ean explain the ulterior development of both the thematie indicatives and the e/o- subjunctive, and if furthermore this éventuel ean be aeeounted for as an earlier non-modal form, we have still to explain the formal genesis of the eategory of thematic verb, and its relation to the athematic type. The formation itself offers two elues to its

origins, which will turn out to be connected: the 1 sg. in -ō, and the affinity of the thematic type to the middle voice.

Renou has called attention in the article cited (p. 21 with n. 1) to a highly significant fact in the Vedic verb: the considerable frequency of the middle voice in thematic formations, compared with its relative rarity in the root athematic presents and aorists, and in the reduplicated athematic presents. As he points out, the same feature has been noticed also by Thieme, Plusquamperf. 53. Contrast hánti with jíghn-a-te, sísak-ti with sác-a-te; the pattern is common Indo-Iranian, cf. jain-ti ~ jaγn-ante, hiš.hax-ti ~ hac-a-te. Within the archaic thematic éventuel, Renou cites the middles várate, stávate, ayate, vánate, stárate, beside the actives vṛnóti aor. āvar, staut subj. stavat, éti, vanóti, strnósi or aor. astar. This observation has far reaching implications; we shall return to it in connection with the Hittite evidence below.

The 1 sg. in -ō belongs to the paradigm of the archaic subjunctive as well as to the later thematic present. This fact alone prohibits us from assuming at the outset a purely mechanical process of thematization of athematic forms, i.e. the insertion of the vowel -e/o- between the root and the endings -m(i) -s(i) -t(i). This 'mechanical thematization' (cf. Kuryłowicz, Apophonie 74) is of paramount importance in the subsequent history of the individual dialects; but it is properly a late development, posterior to the existence of a thematic model which must have been created in the Common Indo-European period. It is to the creation

of this model that we must now direct our attention.

The process of thematization presupposes the existence of a model both in the present and in the aorist or imperfect. Even if the*ǵidét of ávidat, ἔFɾδε, egit is the only attested thematic aorist which is plausibly antedialectal in date, as suggested by Thurneysen and Cardona, there were in all likelihood still others formed at an early period. Thus while an antedialectal *lik^{w}ét cannot be invoked to explain aricat attested only in Classical Sanskrit, the equation ἔλιπε : elikʿ may still be valid, the more so since the entire Armenian verb is built on this aorist form (pres. lkʿanem < likʿ- anem etc.). Cf. ch. XI §6 below on the genesis of *lik^{w}é-.

§11. Recent views of Indo-European morphology, particularly in the Soviet Union, have emphasized the postulation of "two series of verbal forms" in Indo-European, basically on the model of Hittite with its two conjugations in -mi and -ḫi. This view is set forth most systematically in Ivanov, Obšč. sist. 55-138 (1965); earlier expression of it by Ivanov may be found in Tox. Jaz. 32 (1959), as well as by V. N. Toporov, VSJ 1961.5-67 (written in 1957). The fundamental notion goes back to Pedersen, Hitt. 80-86 (1938), who assumed a basically transitive conjugation in -m(i) -s(i) -t(i) -(e)nt(i), continued in the Indo-European athematic type, and a basically intransitive conjugation in -a/-ō -tha/-e(i)

-e/e(i) -r/n, continued in the Indo-European thematic conjugation (particularly of Greek), in the perfect, and in the Hittite hi-conjugation.

Pedersen's concept of the associated syntactic functions, a transitive/intransitive opposition correlated with an ergative/absolute opposition in the nominal system, was set forth by him in Mémoires de la Société Finno-Ougrienne 68.311-15 (1933), and indeed as early as 1907 in KZ 40.129 ff. In principle his syntactic views may be correct (cf. recently W. Dressler in IF 71.51, with references); but in view of the discrepant functions in the actually attested data, to attempt such distant reconstruction would be methodologically unsafe. Consider the eminently sober remarks of Kuryłowicz, Infl. Cat. 58: 'One cannot reconstruct ad infinitum. We must be satisfied with the reconstruction of stages bordering the historical reality.'

In the structural context of the Indo-European verb we have here to deal with two relevant functional oppositions: that of "voice", active/middle, and that of "status", active (or operative)/stative. Both are profoundly entrenched in Indo-European; see Kuryłowicz, Infl. Cat., ch. 2, as well as Wackernagel, Vorl.^{2} 1.168, and Chantraine, Hist. du parfait grec 26 ff., for the latter, and especially Benveniste, 'Actif et moyen dans le verbe,' J. Psych. 1950.121-9, for the former. Each of these has its associated formal opposition, in special desinences. It was shown independently by Kuryłowicz, BSL 33.1-4 (1932), and Stang, NTS 6.29ff. (1932),

that the desinences of the middle and of the perfect are ultimately the same. Though I am in complete agreement with this view of the formal relations, it does not necessarily follow that the two categories were functionally identical at the outset, any more than the original identity of the endings of present and aorist imply that this aspectual opposition is a neologism.

§12. Beside the formal oppositions active/middle and active/stative there is a third, partially intersecting, that of athematic/thematic. Renou has pointed out the striking correlation of athematic with active, thematic with middle voice in Vedic, and we shall see the corroborative evidence from Hittite below. Formally, Hittite shows an opposition active/middle and an opposition mi-conjugation/ḫi-conjugation, whence the initial equation of the ḫi-conjugation and the perfect by Sturtevant. Kuryłowicz was the first to note also that the 1 sg. -ō must be connected with Hitt. -ḫ(i) (Symb. Rozwadowski 103). Couvreur, Annuaire de l'Inst. de Philol. Orient. Bruxelles 4.551-73, further compared the ḫi-conjugation with the 'ō-conjugation' of the other languages, while rejecting the connection with the perfect; the same is maintained by Crossland, Proc. VIII Int. Cong. Ling. 248-9. But it was Pedersen who first saw correctly that both the perfect and the ō-verbs together had to be compared with the Hittite ḫi-conjugation

(Hitt. 81). On the other hand the details of his explanation of the forms is not entirely satisfactory, and the problem remains open.

It is apparent that the critical new data for a theory of Indo-European verb inflexion are those of Hittite. It is primarily --though not uniquely-- to the emergence of Hittite in comparative grammar in this century that we owe the necessity of rethinking the system of the Indo-European verb, previously reconstructed largely on the accord of Greek and Indo-Iranian. Yet Kuryłowicz in his report on Hittite in the Proc. VIII Int. Cong. Ling. 216-43 was concerned to 'dethrone Hittite after its brief reign', by demonstrating a substantial number of innovations of Hittite as against the other languages. Both views are justified. There are in fact certain significant shared features of Hittite and Indo-Iranian, common retentions, which permit a rather different view of the original language. These are few in number, but anchored in the remotest tradition: anomalies in the systems of each, and therefore archaisms. On the Indo-Iranian side, these are recognized as older than those features shared with Greek--cf. Ved. aśaya[t] versus Gk. κεῖτο-- which must raise the question whether the "normal" features shared between Indo-Iranian and Greek are not in fact largely the product of parallel but independent innovations. For this reason we shall begin with Hittite, but considering it together with Indo-Iranian.

As Benveniste has so well stated (Conf. de l'Inst. de ling. de l'Univ. de Paris 11 [1952-53] = Problèmes de ling. gén. 106-7):

'Il faut prévoir aussi que la configuration d'une parenté peut toujours être modifiée à la suite de quelque découverte. L'exemple du hittite est, précisément, celui que illustre au mieux les conditions théoriques du problème. Comme le hittite diffère sous maints rapports de l'indo-européen traditionnel, Sturtevant a décidé que cette langue n'était apparentée que latéralement à l'indo-européen, avec lequel elle constituerait une famille nouvelle dénommée <<indo-hittite >>. Cela revenait à prendre pour une entité naturelle l'indo-européen de Brugmann et à réléguer dans une condition spéciale les langues non exactement conformes au modèle classique. Nous devons, au contraire, intégrer le hittite dans un indo-européen dont la définition et les relations internes seront transformées par cet apport nouveau.'

V. Hittite.

§1. As is well known, the Hittite verb shows the formal oppositions athematic/thematic, active/middle, mi-conjugation/hi-conjugation, and primary/derived (secondary) verbs. We have already treated the athematic active mi-conjugation primary verbs like ešmi, kuenzi, which are numerous, and a clearly inherited class.

It is curious to note that while thematic active mi-conjugation verbs are well attested in Hittite, they are uniquely derived verbs, with the secondary suffixes *-sḱe/sḱo- and *i̯e/i̯o-: e.g. OHitt. 3 sg. pret. akkišket 'was dying', hazziet 'stuck, hit'. See especially Kronasser, Etym. 575 ff. (-šk-), 483 ff. (-ya-). The familiar types of Skt. bhárati, tudáti, or (á)vidat are not represented at all.

The fact is noted by Sturtevant, Hitt. Gr.^{2} 121, with a handful of alleged examples, none of which stand up to scrutiny. Most problematical is the pair pehutezzi '(hin)führen", uwatezzi '(her)führen', taken by Pedersen, Hitt. 131 and Benveniste, Hitt. et i.-eur. 38-9 as thematic forms cognate with OCS vedǫ, Lith. vedù. The phonological and morphological difficulties in this interpretation are grave; I prefer to take the forms with Kronasser, Etym. 465-6 (without etymology) as "athematic mi-verbs in final vowel", and would identify the root as Hitt. te- < IE *dhē- as in tezzi 'says'. In the preverbs we could see pe 'hin' + hu,

the particle appearing in e-hu 'come' and the mid. ipv. 2sg. -hu-t; uwa either contains a disyllabic variant of u 'her', cf. Skt. áva : Lat. au-, OCS u, or else represents u + a particle or lost preverb a, cf. Skt. á (?). Note Ved. áva dhā. The very isolation of the two verbs in Hittite precludes an explanation via the thematic present of later indo-European languages. Another such case is the berb weda- 'build', which though a hi-verb in later Hittite (i sg. wedahhi) is consistently a mi-verb in archaic texts: 3 sg. pres. wetezzi Laws I §98, 100 (both in A and B of Fredrich's sigla, the former in Ollitt. ductus), 1 sg. pret. wetenun Anittas 55. Likewise in Palaic, archaic in many respects, we have 2 sg. pres. (ti) witesi 'you build', cf. Kammenhuber, BSL 54.38 (1959). Kronasser 544 himself suggests a derivation *ue + dhē-, and the inflexion exactly parallels (pehu-/uwa-) tezzi, -tenun. The derivation from *dhē- is supported by the Palaic form witesi as well, since IE e normally appears as Pal. a (ašdu : Hitt. ešdu), Kammenhuber, op. cit. 30.

It is further characteristic of these derived thematic verbs in Hittite that the distribution of the variants e and o (Hittite e/i and a) of the Indo-European thematic vowel in the paradigm is not entirely what would be expected from the Indo-European point of view.

§2. The Old Hittite forms of the -šk- paradigm have been collected by Kronasser 577-8:

act. pres.	-šk<u>imi</u>	-šk<u>eweni</u> (?; 1x)
	-šk<u>iši</u>	-šk<u>atteni</u> (-šk<u>ittani</u> 1x)
	-šk<u>izzi</u>	-šk<u>anzi</u>
pret.	-šk<u>inun</u>	-šk<u>awen</u> (-šk<u>iwen</u>)
	-šk<u>it</u> (1x; -šk<u>eš</u> later)	-šk<u>itten</u> (-šk<u>atten</u> later)
	-šk<u>et</u>	-šk<u>ir</u>
ipv.	-šk<u>i</u>	-šk<u>atten</u> (-šk<u>iten</u>)
	-šk<u>ittu</u>	-šk<u>andu</u>

The occasional forms with plene-writing -š-ki-e- in Old and later Hittite show that -šk<u>i</u>- is everywhere to be read /-sk<u>e</u>-/ (Kronasser 579). In the third person, the variation sg. -šk<u>izzi</u>/pl. -šk<u>anzi</u> appears to reflect inherited *-šk<u>eti</u>/*-šk<u>onti</u>; but -<u>anzi</u> is predictable as the only 3 pl. pres. ending in the language, hence the historical inference is not probative. In the 1 and 2 pl. forms the thematic vowel hesitates between <u>a</u> and <u>e</u>, which could be taken as a perturbation of inherited *sk<u>ome</u>-, *sk<u>ete</u>-; but the reason is uncertain, and it is safest to say with Kronasser 580 that 'die Entscheidung für eine der beiden Ablautstufen hier noch nicht gefallen sei.' In the 1 sg. the form is consistently -šk<u>emi</u> (-šk<u>imi</u>) throughout the history of the language: the form is similar to Arm. 1 sg. -<u>em</u> (pres. subj. -ic'<u>em</u> < *-isk<u>emi</u>), though a direct comparison is unlikely. Cf. also the later spread of 1 sg. -<u>m</u> in Celtic and West and South Slavic.

§3. For the verbs in -ya- in Old Hittite we can offer the following picture, based largely on the roster of forms in Kronasser 483 ff. and 470-1 (where Old Hittite forms are not systematically distinguished). Paradigmatic forms found only in the later language are given in square brackets.

act. pres.	-iemi [-iyami]	[-iyaweni]
	-ieši [-iyaši]	[-iyatteni]
	-iezzi [-iyazzi]	-iyanzi
pret.	-ienun (-iyanun also later)	[-iyawen]
	[-iyat]	[-iyatten]
	-iet (-iyat also later)	-ier
ipv.	-iya	[-iyatten]
	-iettu [-iyattu]	-iyandu

It seems indicated, in view of the relative chronology of the forms above, to assume an inner-Hittite phonetic change ye > ya, with the same dissimilation as in Latin uo > ue. The same change applies to Hitt. ye from IE *i̯ē-, on the evidence of the verb iya- 'make', Old Hittite consistently iye-; cf. Kronasser 462-3. Similarly its compound u-iya- 'send', OHitt. u-iye-, and note 1 sg. pret. uienun, with a more archaic form than the simplex iyanun. The IE root-form *i̯ē- (*ieH₁-) recurs in Lat. ī̆-ci. Ivanov, Obšč. Sist. 140 n.6 suggests however the

comparison of Skt. yam-, yácchati, and Toch. B yam-, 1 sg. yamaskau. The two may be easily reconciled. The root forms *iẽ- (iẽci) and *iem- (yámati, yácchati) are related exactly as *g^{w}ā- (agāt, ἔβην) and *g^{w}em- (gamat, gácchati), *stā- (asthāt) and *stem- (Toch. stäm- 'stand'), *dhē- (adhāt) and *dhem- (Toch. täm- 'give birth'). For the last two see Winter, IF 67.27-8 (1962). The variation is of Indo-European date, whatever its explanation; the root *dhem- postulated by Winter uniquely for Tocharian, exists also in Indic (dham-) in various terms relating to the practise of magic, as noted (without etymology) in Renou and Benveniste, Vr̥tra et Vr̥θraγna. For the association of magic with the root *dhē-/*dhem- cf. especially Slav. čaro-dějь 'sorcerer'.

Otherwise the original paradigm is almost identical to that of the -šk- verbs, and the same remarks apply. Only in the 2 sg. imperative do we find a distinction, -iya ~ -ški. Perhaps the change ye > ya occurred earliest in absolute final position; one might also note the a-stem vocative iš̆ŭa-mi 'my lord', if this is not simply nom. -aš minus -š. But in view of the fact that the imperative middle in Old Hittite shows the ending -iya-hut(i), cf. Kronasser 578 with 426 n.3, it is probably more prudent to take ipv. act. -iya at face value.

§4. Now the presence of thematic active formations only in derived verbs is suspicious. It is a priori reasonable to assume the original locus of the thematic vowel to have been in primary formations, from which it would spread to secondary

derivation; hence we should expect the Hittite verb to show evidence for the thematic vowel on the primary level. This evidence in fact exists, and is well known; but its importance has never been properly appreciated. Primary thematic formations are quite common in Hittite, but only in the mediopassive, or in the *hi*-conjugation. The conclusion to be drawn is that the primary (radical) thematic verb in Indo-European had its original locus in the middle voice, and in the ancestor of the Hittite *hi*-conjugation; a hypothesis which is fully in accord with the comparative facts of the earliest layer of thematic formations in Indic, the characteristically mediopassive Vedic *éventuel* discussed above.

§5. If the Hittite radical thematic type is by origin mediopassive or 'deponent' (the *hi*-conjugation, cf. Kuryłowicz, *Infl. Cat.* 68), we should expect the earliest layer of derived verbs to be likewise middle in Hittite. For this there is likewise good evidence in Hittite: one may be referred to the full discussion in Ivanov, *Obšč. sist.*, 139 ff. Old Hittite texts show a goodly number of middle forms with suffix *-šk-*, *-iya-*. Some are significantly media tantum; the contrast between *uizzi* 'comes' (*u* + **ei-ti*), always active in the simplex, and its iterative *uiškitta*, always middle, is striking. Compare the following, all from Old Hittite texts, or archaic genres, as indicated (Roman numerals without other specification are volumes of KUB):

pres.	1 sg.	eškaḫḫa KUB XXXI 4 Vs 11	
		[eš]kaḫḫari KBo VII 14 I 17	
	3 sg.	uiškitta HAB	lazziatta Laws A
		[DUGUD-eš]kattari HAB	tiyari XXXI 127 I 42 (sun-hymn)
		duškiškitta XXXIII 120 I 29,30 (theogony)	šiyari BoTU 4A II 8
			ḫaliya X 11 II 17 (ritual)
	2 pl.		šarkaliyatumari HAB
	3 pl.	eškanta BoTU 12A III 15	ḫuettianta Laws
		išḫaškanta ABoT 4a Vs 9	
pret.	2 sg.	kurkuriškattati XVI 10 I 2 (myth)	
	3 sg.		pangariyattati Tel.
			naḫšariyatati "
			kištanziattat Anittaš
			ḫuittiyati "
			šiyati BoTU 4a II 9
	3 pl.	eškantati KBo VII 14 I 2	naḫšariantati XXXVI 100 Rs. 4
ipv.	2 sg.		ḫarpiyaḫḫut VI 45 III 72 (prayer)
			šeškiaḫḫuti BoTU 4B III 13
	3sg.	duškiškattaru BoTU 14α 3	
		uiškittaru HAB	

Note that the thematic vowel is always a in the -iya- verbs; in

the -šk- verbs we have an apparent hesitation between a and i (=e) in the 3 sg. forms, partly a question of the interpretation of the cuneiform sign kat (kit$_9$?). See Kronasser 580. Particularly interesting is the presence of both "ḫi" and "mi" forms of the -iya- verb middle: 3 sg. pres. -iya(mi) : -iyatta(ri), pret. -iyati : -iyattati. See on these further below.

§6. Not only do we have such clearly archaic mediopassive derived verbs, but also thematic ḫi-conjugation derived verbs as well: those in -ša- (1 sg. -šaḫḫi, 3 sg. -šai) and in -na- (1 sg. -naḫḫi, 3 sg. -nai).

The verbs in -ša- are discussed at length by Kronasser 549-56, and Ivanov, Obšč. sist. 139-43; cf. also Bechtel, Hittite verbs in -sk- 75-80, Watkins, Celtic Vb. 75 (where the suggestion that the ḫi-conjugation of -ša- may be secondary, should be withdrawn). In Hittite we have only a handful of forms left with the iterative-durative (imperfective) suffix -ša-, which is identical in function to -šk-: ešša- 'make' from ie- (iya-), halzešša- 'call' from ḫalzai- (ḫalziya-), wareššša- 'come to the aid of' from warrai-, and possibly šiššša- (šeššša-) 'stamp, impress' from šai-, unless the last is a reduplicated form.

These are relic forms; the category is an archaic one, as noted already by Bechtel, which was virtually swamped out by the ubiquitous spread of the -šk- forms in Hittite. For we find comparable forms in other languages of the group: the category is

Common Anatolian. Cf. Palaic 3 sg. pres. mari-šši 'crumbles' (hi-conj.), beside Hitt. simplex marriya- 'id.'; Pal. ipv. piša 'give!', beside which Palaic also shows the imperfective in -šk- in azziki 'eat!' = Hitt. azzikki (at-ški). See Kammenhuber, BSL 54.38-41 (1959). In Luvian we have the suffix -šša/i-, Hier. Luv. -sa-, and in Lycian -s-; cf. Laroche BSL 53.194-7 (1957). Note also the "Glossenkeil" words like 3 sg. pret. arpašatta, tarpanallaššatta, which are surely Luvian, like sahhaniššatta etc; cf. Güterbock, Orientalia 25.120 ff. (1956). The thematic character of the Luvian suffix is clear from such 3 sg. forms; 1 sg. -š-wi demands a separate explanation. Luvian -šša is ambiguous, since it may reflect earlier -š(a)- or -šk(a)- alike, but the similarity of ipv. Luv. pipiššа and Pal. piša as against Hitt. peški (like Pal. azziki) is striking; cf. Ivanov, Obšč. sist. 143 as against Kammenhuber, op. cit. 41, and compare the discussion of the Hittite imperatives -ški but -iya above.

§7. For the Hittite verbs in -na- see especially Kronasser 556-69. Functionally the formation is not unitary, showing some forms with presumed 'durative', and some with 'causative/factitive' (transitive) value; nothing indicates that this is not a special development of Hittite. The type is that of iyannai 'goes, marches'; it is archaic, cf. especially OHitt. 1 sg. pres. iyannahhe FHG 6 II 8 (for the desinence see further below). It recurs as well in Palaic: 3 sg. pret. šūnat 'filled', ipv. šūna, beside OHitt.

šunnahhi 'I fill' (Kammenhuber, op. cit. 38-40). Palaic shows no trace of the Hittite ḫi-conjugation 3 sg. pret. -š, inflecting all preterites like the Hittite mi-conjugation; hence Pal. šūnat beside (later) Hitt. šunneš/šunnaš. In Luvian, we have the forms in -an-iya- (Laroche, Dict. 144), which may be compared with the Hittite variant forms of -(an)na- in -(an)n-iya- (Kronasser, loc. cit.); but they may well be independent innovations in each, based on the common inheritance of forms in -(an)na-.

§8. We have noted up to now the archaic character in Hittite and other Anatolian languages of the mediopassive thematic forms in -šk- and -iya-, as well as of the thematic ḫi-conjugation of the secondary suffixes -ša- and -na-. There is comparative evidence from other Indo-European languages for the same phenomena, which goes to associate the thematic conjugation of derived verbs in Hittite with the middle voice in other Indo-European languages, and at the same time to associate the Hittite secondary thematic ḫi-verbs with the 'Indo-European' thematic conjugation.

For the (thematic) middle Hittite verbs in -šk-, the most important comparison is the Latin verbs in -(ī)scor, characterised already as archaisms by Leumann, Lat. Gr. 1.314. Cf. apīscor adipīscor, com-/re-minīscor, nancīscor, oblīuīscor, pacīscor, proficīscor, ulcīscor, erceiscunda (CIL I^2 592 II 55, ercīscor), frūnīscor, as well as (g)nāscor, expergīscor (if related to Av. fra-γrisamnō), uĕscor. If uĕscor is to be connected with edere

(3 sg. ēst, cf. Skt. atti Hitt. ezzazzi /et-s-zi/), the relation ēst : uĕscitur is directly comparable to that of Hitt. uizzi : uiškitta cited above. The relation ēst : uĕscitur seems probable, despite Ernout-Meillet[4] s.v. Rather than a compound uĕ̆-ĕ̆scor (Brugmann, Grdr.[2] II 1.478) one could see alternate root forms *ed-: *u̯ed- like *es- (ἐύς): *u̯es- (vasu-). See on this form also Ivanov, Obšč. sist. 162, who notes the comparable Hitt. hi-conjugation 3 sg. ezzai. Cf. also apĭscor : OLat. apere, pacĭscor: OLat. pacere, with the same archaic relation between active transitive base and mediopassive derivative in -sc-.

§9. To the Hittite middle verbs in -iya- we can compare the primary mediopassive verbs in *-(i)i̯e-/-(i)i̯o- of three traditions, which form also in other respects (e.g., the augment and the thematic aorist) a dialect area: Greek, Indo-Iranian, and Armenian. In Greek we have the present type μαίνομαι, φαίνω (also with middle forms outside the present in Homer), which show antevocalic zero-grade of the root, as well as ἴδίσθω (active ending, but cf. RV mid. pple. sisvidāna-, Br. svedate) with *-iie-/-iio-. In Sanskrit we have the well-known passives in -ya- like badhyáte 'is bound' beside which we have also old intransitives mriyáte 'dies', dhriyáte 'is steadfast', likewise with zero-grade root. The intransitive use is doubtless the older, as the passive a specialization parallel to that occasionally found with the endings -e, -(i)re, on which see below. In

Armenian we have the passives and deponents in 1 sg. -im, like sirim 'I am loved', unim 'I have', reflecting *-iie-. Cf. Meillet, Esq.[2] 107, Introd.[8] 211 (where however the Balto-Slavic and Latin forms are to be explained otherwise).

Another striking parallel is Lat. orior, ortus. The antiquity of the mediopassive suffix -io- in this verb is confirmed by Arm. y-arnem 'I rise', with its mediopassive aorist y-areay and wholly anomalous ipv. ari, arik', both from ar-ii-: cf. Meillet, Esquisse[2] 115. Note also Hitt. arai 'rises', significantly a hi- verb.

§10. The Hittite verbs in -šša- correspond to a thematic suffix *-so- in other Indo-European languages, which is most clearly attested in West Tocharian, in the eighth class presents: nak-ṣäṃ 'destroys' (*nek-se/o-, cf. Lat. noxa), mil-ṣäṃ 'harms' (*mel-se/o-, cf. OIr. mell 'damage, undoing', denom. millid 'destroys'). It can further be formally compared both to the Greek future, with its well-known affinity for the middle voice, and with the common short vowel subjunctive of the Greek sigmatic aorist in Homer, which are functionally similar to futures (cf. Chantraine, Gr. hom. 1.485); cf. Hom. λέξομαι. Note also the Vedic s-aorist subjunctive middle, type mámsate, and the archaic deponent inflexion of the s-subjunctive of OIr. ithid 'eats', 1 sg. ·dóesur < de-fo-ess- (Ivanov, Obšč. sist. 162).

§11. The Hittite -na- verbs, particularly the variants -anna-, -anniya- (Luv. -aniye-) have been compared with the type of Gk. λιμπάνω, Arm. lk'-anem, OPruss. powaid-innei 'means'. These are probably all independent creations of the dialectical period; it is unlikely that the conventional reconstruction *-ₒne/o- represents a real Indo-European form. Cf. Meillet, Introd.[8] 222. On the other hand it is probable that the suffix form *-ne/o- without preceding reduced vowel is of Indo-European antiquity. Observe the following alternations between root athematic verb in final long vowel, and derivative in *-ne/o-:

*stā- (OCS stati, OPruss. po-stāi)	:	*stā-ne/o- (stanetъ, postānai)
*dhē- (Ved. adhāt, Arm. edi)	:	*dhē-ne/o- (ORuss. dĕnu, Arm. dnem)
*pō- (Ved. apāt, Aeol. πῶθι)	:	*pō-ne/o- (Aeol. πώνω)

Two of the commonest Hittite -na- verbs enter precisely into this pattern:

*i̯ā- (Ved. yā́ti)	:	*i̯ā-ne/o- (iyannai)
*ḫ₂ō- (Lat. ō-men, Hitt. ḫu̯ā-mi)	:	*ḫ₂ō-ne/o- (ḫu̯annai)

The *i̯ā-ne/o- of iyannai 'goes, marches' recurs as well in West Tocharian, in the 1 and 3 pl. pres. of yam 'I go' : ynem(o), yanem (yänem, ynem-ne), cf. Krause, Westtoch. Gr. 61, Ivanov, Obšč. sist. 180. This etymology of ḫu̯annai 'adjudges, pronounces a verdict' is

given also by Kronasser 562, though without structural context. Note also that the common figura etymologica ḫanneššar ḫanna- 'Urteil fällen' need not be a calque on Akk. dīnam dānu (Kronasser 561); it is equally comparable to Old Irish berid breth 'id.'

Thus to an Indo-European thematic suffix -ne/o- corresponds a Hittite thematic ḫi-conjugation present. Additional evidence for the thematic character of the suffix in Hittite is the form -ne-šk- in the iterative, e.g. ḫannešk-; since the iterative suffix is -šḳe- without preceding vowel, the segmentation must be -ne-šḳe-, and we thus get a Hittite -ne- as the stem-form of the suffix, to which the desinences are added. The same thematic suffix -ne-, this time before a desinence, appears in the 3 sg. preterite iyanneš, attested from the Old Hittite Anittaš text; and the imperative 2 sg. is the bare stem ḫanne. For the origin of the suffix -(n)na- and IE *-ne/o- see ch. XIV §14.

§12. We observed earlier that the thematic type was well represented in Hittite only in the mediopassive and the ḫi-conjugation. It is important to note that the verb ḫannai appears both as an active ḫi- verb and as a thematic mediopassive, without difference of meaning: 2 sg. ḫannessar ḫannattari (KUB XXXI 127 I 43), ḫ. ḫannatta (XXX 11 I 6) 'you decide the case', with the figura etymologica noted above. Both are from the Sun hymn and parallel texts, (cf. Güterbock, JAOS 78.237-245 [1958]), which although put together in the New Kingdom, show clear signs of archaic lin-

guistic features, and must go back to an archetype of the Old Kingdom period. Likewise 3 sg. ḫannari, and 3 sg. ipv. ḫannaru in Old Hittite (BoTU 17 A III 3). Here ḫi-conjugation and mediopassive ("deponent") are equivalent.

Other verbs show already in Old Hittite the same hesitation between thematic ḫi-conjugation and middle inflexion, with no difference of meaning. Thus from šarrai 'separates; breaks; infringes' (Kronasser 532-4; more than one verb?) we have 2 sg. pres. šarrat[ti] XXXVI 108, 10 (them. ḫi-conj.) beside the middle forms pres. 3 sg. šarratta HAB, 2 pl. šarrattuma BoTU 10β 25, pret. 3 pl. šarrantati KUB XXX 12 I 8 (prayer). Note also the middle -šk- forms šarraškitta (šarraškatta) etc.

In the archaic myth of the disappearance of the Storm God, we have a complete 'paradigm' of the preterite singular of waštai 'sins': XXXIII 24 I 32-34 = 26 Vs. 10-11 (the latter with older forms) natta kuiški waštaš zik-pat minu waštatta;... UL-wa uk waštaḫḫun 'no one sinned, but you...sinned;...I did not sin.' The 2 sg. waštatta is given as a middle form by Friedrich Wb. and Kronasser 535, since it contrasts in form with 2 sg. (= 3 sg.) pret. wastaš. But the entirely natural paradigmatic sequence in the text cited shows rather that it is simply the oldest form of the ḫi-conjugation preterite 2 sg., as in OHitt. paitta 'you gave' HAB (Celtic Vb. 87-8, 104). The form waštatta is older than the spread of -š from 3 sg. to 2 sg. function in the ḫi- preterite. It is identical with the middle 2 sg. ending -ta (them. -a-tta), but in that both go back to the same Indo-European form *-tḛo;

waštatta is a thematic hi-conjugation form, and not a middle (no other middle forms of the verb are found), for which we would in any case expect preterite 2 sg. *waštattat(i).

§13. We are now in a position to examine more systematically the conjugation of the thematic hi-verbs and the mediopassive. A confrontation of the two paradigms is prima facie evidence for their ultimate common origin, as argued by Kuryłowicz in the larger context of the hi-conjugation as a whole, and the Indo-European perfect as well as aorist middle: BSL 33.1-4 (1932) [and independently Stang. NTS 6.29 ff. (1932)]; Proc. VIII Int. Cong. Ling. 236 ff.; Infl. Cat. 67 ff.

Following are the endings of the two classes; the forms are all Old Hittite, with the exception of the 1, 2 pl. pret., which show more recent character. Elements in parenthesis are optional components.

		m.-p.	-hi
pres. sg.	1	-ahha(ri)	-ahhi archaic -ahhe
	2	-atta(ti) (-ri)	-atti
	3	-a(ri) ~ -atta(ri)	-ai or -i
pl.	1	-awašta(ti)	-aweni
	2	-attuma(ri)	-atteni
	3	-anta(ri)	-anzi

pret. sg.	1	-ahhati	-ahhun
	2	-attati	-atta; -aš ~ -e/išta
	3	-ati ~ -attati	-aš ~ -e/iš ~ e/išta
pl.	1	-awaštat	-awen
	2	-attumat	-atten
	3	-antati	-e/ir
ipv. sg.	2	-ahhuti	-a ~ -e/i
	3	-aru ~ -attaru	-au
pl.	2	-attumati	-atten
	3	-antaru	-andu

The 1 pl. and preterite also show the forms -(n)umen(i), -(n)uen(i) = -nuwen (Friedrich's class II 2 c) already in Old Hittite; this is probably an innovation, but still obscure despite the discussion by Kronasser 560-61 (with references). The 3 pl. pres. -anzi alternates in some verbs with -iyanzi (cl. II 2 d). Compare perhaps the archaic alternation discussed in ch. II §7.

§14. The middle presents shows the two optional particles -ri and -ti. To determine the reason for their presence or absence remains a task for the future. The former (aso Luv. -ri) was from the beginning of Hittite studies correctly identified with the r-element of the Italic and Celtic mediopassive. The basic Anatolian

form is -r, as appears from Pa. kītar 'lies', Hitt. kitta, kittari. Similarly the imperative in -aru, -(at)taru, Luv. -aru, -taru, from -(t)or + particle u like active -t + u, cf. Sommer, Heth. u. Heth. 45. The Hittite forms show that the r-element was not in itself a mark of the middle voice.

The optional particle -ti in the present is probably the same as the -ti of the preterite, where it is obligatory in Old Hittite (truncated to -t in later Hittite, cf. Friedrich Elem.[2] §153). It is probably to be reconstructed *dhi, and identified with the particle appearing in the imperative (κλῦθι, śrudhí), with Pedersen, Hitt. and further in the Indo-Iranian secondary 1 pl. mid. *-ma-dhi (Ved. -mahi, Gath. -maidi); cf. Kuryłowicz, Proc. VIII Int. Cong. Ling. 240-1 (erroneous Infl. Cat. 69-70). Like *-r(i), the particle *dhi has nothing per se to do with the middle voice; its ultimate function is unknown, but it is probably to be identified not only in ipv. *-dhi (i.e. zero + dhi), 1 pl. *-madhi < active *-me/o + dhi, but also in the Greek adverbial case forms in -θι (οἴκοθι) and the Armenian loc. sg. (telw)-oǰ < -o-dhi + V. Greek shows variant adverbial morphemes -θα (as well as -θεν) like ἔνθα (Meillet-Vendryes, Traité[2] 519); the parallelism -θι : -θα permits us to juxtapose I-Ir. *-ma-dhi and Gk. 1 pl. mid. -με-θα, -μεσ-θα, as variants built on the same fundamental 1 pl. desinence *-me/o which we have seen in the earlier discussion. 'Aeol.' -μεθεν (Gramm.), if genuine (cf. Schwyzer, Gr. Gr. 1.670), would parallel adverbial -θεν in the same fashion as -μεθα : -θα and -madhi : -dhi.

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[1] For both sets of endings -dhi

§15. For both sets of endings, -ḫi and middle, see the discussion and references in Kronasser 366-82, though I cannot agree with many of his conclusions regarding the mediopassive and ḫi-conjugation forms. In the matter of the ḫi-conjugation, as we shall see, the correct view has been seen much more clearly by Rosenkrantz, JKIF 2.341 ff. (1953), KZ 75.215-22 (1958), building on the fundamental equation made by Kuryłowicz and Stang.

The basic middle endings are thus in the thematic conjugation sg. 1-3 -aḫḫa -atta -a ~ -atta. Since the -t(i) of the preterite is by origin a particle proper in this function to Anatolian alone, it follows that the primary and secondary endings are ultimately identical, and their differentiation a dialectal phenomenon. For the variation -a ~ -atta in the 3 sg. see below.

In the thematic ḫi- verbs we have the basic set pres. sg. 1-3 -aḫḫi -atti -ai ~ -i, 3 pl. -anzi, pret. -aḫḫun -atta -aš, 3 pl. -er. Very important are the archaic forms 1 sg. pres. -aḫḫe, 3 sg. -e, which as Rosenkrantz and Otten (ZDMG 104.202[1954]) have shown clearly, represent an archaic /-ḫe/,/-e/ which is later raised to /-ḫi/,/-i/ exactly as archaic dat.-loc. 3 sg. anaphoric -še later appears as -ši. Cf. also Ivanov, Obšč. sist. 135 (who ignores 3 sg. -e); Kronasser's view (p. 370) that these are mere variant spellings falls on the fact that every example of these endings comes from a text in Old Hittite, and most from texts in Old Kingdom ductus. The attested forms are 1 sg. iyannaḫḫe, memaḫḫe, peḫḫe, daḫḫe, tarnaḫḫe, teḫḫe, all from text 324 of Laroche's Catalogue, with the archaic ductus of the Old Kingdom (Güterbock,

JAOS 84.109 [1964]);]-aḫ-ḫ[é,]x-ma-aḫ-ḫé IBoT III 135 Vs. 1,4 (text 324?) aššašḫe BoTU 10 II 4; teḫḫe XXXII 117.Vs. 7. We have 3 sg. warše Laws II §51 in q (old ductus), but cf. warši ibid. II §§6 and 22, also in q; mazze KBo VII 14 I 8 (Laroche, RHA 76.51[1965]); ašaše KBo VIII 121, 6 (Friedrich, HWb. Erg. 3.11). For certain of the 3 sg. forms in -e, it is uncertain whether they are to be referred to the thematic or athematic ḫi-conjugation: mazze, later mazzi (root mat-) may be formed like ezzai (root ed-), išparzai (root išpart-), cf. Kronasser 392-3. In the thematic ḫi-conjugation in general the form of the 3 sg. pres. hesitates between -i and -ai, both in Old Hittite and later: šarri/šarrai, wašti/waštai, šipandi/šippandai, and perhaps šakki 'knows' if the OHitt. 1 sg. šaggaḫḫi (HAB) is a genuine thematic form like šipandaḫḫi, and not graphic for athematic šakḫi (attested in the Kantuziliš prayer, which shows old forms). It is likely that -ai is a secondary morphological replacement of -i (older -e), even if old in Hittite; see further below, §17.

In any case the basic archaic forms -ḫe *-te -e are to be derived with Rosenkrantz from earlier *-ḫai *tai *-ai, i.e., *-ḫa *-ta *-a + i. They reflect IE *-$h_2$oi *-t(h_2)oi *-oi/-ei, with the deictic particle -i as in *-mi *-si *-ti, and can be directly equated with Latin -Ī (Fal. -ai)-(is-)tī -ī(t) (later -it), as well as OCS 1 sg. *-ai in vědě, 3 sg. *-ei in the type mьni(-tъ), on which see Kuryłowicz, Infl. Cat. 79-81. In all three traditions, Hittite, Italic, and Slavic, the suffixation of the particle -i is probably independent and dialectal in date.

For the thematic vowel before these endings, see below.

The endings of the preterite are fundamentally identical, and show indeed an older layer of forms without the affixation of the deictic particle; cf. especially Kuryłowicz, Proc. VIII Int. Cong. Ling. 237; Infl. Cat. 66ff. The -un of 1 sg. -aḫḫun has long been recognized as an addition from the mi-conjugation; the earlier and basic ending -aḫḫa is clearly preserved in Luvian: Glossenkeil 1 sg. pret. tattaḫḫa, daḫušiyaḫḫa, pašiḫaḫḫa, awiyaḫḫa, cf. Güterbock, Orientalia 25.120 ff. (1956). Thus 1 sg. -aḫḫa from *-o-ə̯o; the 2 sg. -atta directly reflects *-o-t(ə̯)o. In these basic forms -aḫḫa, -atta the identity of ḫi-conjugation and mediopassive is self-evident. Only in the 3 sg. have we a divergence, ḫi-conjugation -aš ~ -eš beside mediopassive -a ~ -atta. Here, however, Hitt. -š (-iš) is ultimately a root enlargement, not an ending proper, as shown in ch. III §9 above. The middle forms, with and without -t-, recur in Luvian, where the particle -r(i) has apparently been generalized: cf. ipv. ay-aru ~ sasl-attaru, ind. lalašḫ-ari, ayari. Without r-element, the thematic form -atta (athem. -ta) is the normal 3 sg. preterite active ending: aššatta, Gl. tarpanallaššatta, tarpašatta (awita, Gl. taparta). The generalization of -r(i) in the Luvian mediopassive recalls strongly the similar generalization in Italic and Celtic.

§16. Athematic conjugation of both the ḫi-verbs and the mediopassive is attested in Hittite from the earliest texts. The

inflexion is basically identical with that of the thematic verbs, minus the thematic vowel. It will be sufficient to give parallel paradigms of the singular present of the two conjugational types, with the simplest form (minus optional -ri, -ti) of the middle, as textually attested in Old Hittite:

med.	-ḫi
paḫḫaš-ḫa	ašaš-ḫi (archaic ašašḫe)
paḫḫaš-ta	ašaš-ti
eš-a ~ ar-ta	ašaš-i (archaic ašaš-e)

Certain of the ḫi-conjugation verbs, with one exception TET- roots, show an apophonic paradigm with a-vocalism of the root in the singular, and e in the plural, participle in -ant-, and iterative in -šk- (partially eliminated by analogy, with a tendency to generalize the variant a). The repartition of forms is such that a is the 'strong grade' and e the corresponding 'weak grade'. This apophony has surely nothing to do with that of the Gothic type sal/ sēlum (so Kronasser 516, citing Sturtevant) since the latter is an innovation of Germanic. The Hittite pattern has been discussed most clearly by Kuryłowicz, first in Proc. VIII Int. Cong. Ling. 228 and later (somewhat differently) Infl. Cat. 68, from which it is virtually certain that the type is a Hittite innovation even if the details are uncertain. The a-vocalism may reflect the *o of the strong grade of the Indo-European perfect (Kuryłowicz 1958), or the zero-grade of the

aorist middle (Kuryłowicz 1963), since Hittite phonologically merges oR and R in aR; the e-vocalism conceivably reflects the inherited zero-grade of TeT-roots as in πεπτός, paktá- (Kuryłowicz 1958), though this interpretation is more difficult to reconcile with his later view of the a-vocalism, where the ablauting forms are not mentioned.

Otherwise the forms are clear, and the preceding remarks on the athematic type apply here with equal validity. In the athematic type, i.e., when suffixed to the root, the basic endings -ḫa -ta -a common to both ḫi-conjugation and middle are to be compared with the Greek and Indo-Iranian perfect endings -α -θα -ε (save for the apophonic grade in the 3 sg.), -a -tha -a. The same qualification applies to the forms with deictic -i and their congeners in Italic and Slavic, where the endings are also suffixed to the root (or perfect stem). Yet the thematic forms of both paradigms remain to be explained.

§17. A significant structural feature of the paradigms of the thematic and athematic middle has not ever been noted in any of the handbooks of Hittite grammar, either synchronic or diachronic. Consider the paradigms of the athematic middle verb eš- 'sit ' and the thematic middle verb neya- 'direct oneself' (given in the simplest form (without -ri), which is predictable though unattested for these particular verbs outside the 3 sg.):

athem.	them.
eš̆ha	neyahha
eš̆ta	neyatta
eš̆a	neya

In the athematic paradigm the segmentation is clearly

eš̆	ha
eš̆	ta
eš̆	a

but in the thematic paradigm it must be

neya	hha
neya	tta
neya	

In other words the final -a is common to the two paradigms, but has different functions in each : in the athematic type it is a 3 sg. desinence, while in the thematic type it is a suffix followed by a 3 sg. zero-ending. (To assume neya = neya + a would be ad hoc.) It will be necessary to account for this multivalence of the 3 sg. form in -a.

From the earlier discussion of the athematic and thematic paradigms of the hi-conjugation and their identity with the corresponding mediopassives, it follows that the same multivalence

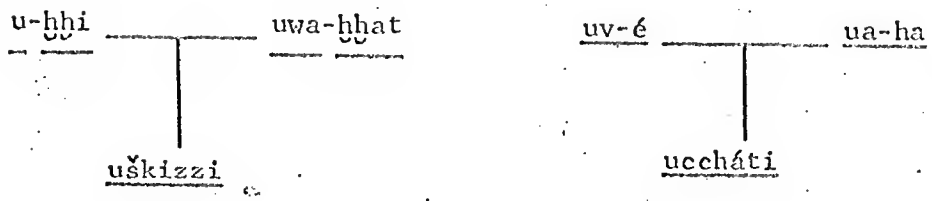
of the 3 sg. form is originally characteristic of the ḫi-type as well. Observe the following (the vertical line marks the boundary between stem and desinence):

athem.		them.
ḫa + i > ḫe > ḫi	a	ḫḫa + i > aḫḫe > aḫḫi
ta + i > *te > ti	a	tta + i > *atte > atti
a + i > e > i	a	+ i > e > i

The relations are identical. This interpretation moreover permits us to explain the alternate 3 sg. thematic ending -ai beside -e, -i: it is the product of an inner-Hittite analogical creation stem a + desinence e, contracted to -ai, and phonologically identical to that in dai 'takes' < da + e, cf. archaic 1 sg. daḫḫe < da + ḫḫe. The new ending -ai did not completely oust the older -i; both coexisted during the whole period of our documentation of the language.

§18. In view of these formal relations within the paradigms it becomes of great interest to note in two inherited Hittite verbs a contrast between the athematic ḫi-verb active and a thematic mediopassive; act. 1 sg. pres. u-ḫḫi 'I see' : med. 1 sg. pret. uwa-ḫḫat, act. 1 sg. pres. ne-ḫḫi 'I lead' : mid. 1 sg. pres. neya-ḫḫa(ri), 3 sg. neya.

B. Rosenkrantz compared directly the Rig-Vedic hapax 1 sg. uvé and 1 sg. uḫḫi, IF 64.68 (1959), building on the identification of the Vedic verb and the comparison of au(ṷ)- by W. P. Schmidt, IF 63.144-150 (1958). Schmidt and Rosenkrantz take uvé as a 1 sg. present middle, following Whitney, Roots; it is unclear whether Benveniste, Hitt. et i.-e. 18 n. 1, regards it as present middle or perfect. I would retain this comparison, but add further that the Maharāṣtri 2 pl. uaha < *uvatha adduced by Schmidt is clearly a thematic form, and as such must be compared directly with the thematic middle uwa- of Hittite uwaḫḫat. (That the Prakrit form is active is of no great moment, as Schmidt points out, since the active/middle opposition in the endings was given up in Middle Indic.) On the other hand to maintain the equation uḫḫi : uvé as *u-o̯i, as correctly reconstructed by Rosenkrantz, we must recognize that the Vedic form is athematic; for the *-o̯i, *-o̯ of Hitt. -ḫe (-ḫi) -ḫa corresponds to the athematic present (and perfect) Vedic 1 sg. mid. -e in the first instance, cf. eṣṭha : ā́se, i.e., *ēs-o̯ : *ēs-o̯i. The affectation of the same ending -e (*-ai) for the thematic present is an innovation of Indo-Iranian, without parallel in Hittite or any other Indo-European dialect; see ch. X §9. As inherited forms, Ved. uvé and Maharāṣtri uaha cannot be mutatis mutandis members of the same original paradigm, as Schmidt thought. Adding to this the iteratives compared by Schmidt, and cf. Ivanov, Obšč. sist. 153-4, we have a striking three-fold equation between Hittite and Indic:



The Hittite ḫi-present neḫḫi may correspond in some fashion to the Vedic perfect (ni-)nāya, as suggested implicitly or expressly by Sturtevant, Pedersen, and Risch; and in line with the above, we may see in the thematic neyaḫḫa a counterpart of the Vedic present nayāmi:

ne-ḫḫi _____ neya-ḫḫa ni-nāy-a _____ nayāmi

The RV hapax ví unoti (5.31.1) is assigned in Whitney's Roots to the same verb as uvé; the form is not mentioned by Schmidt. Geldner renders the passage yuthā́ iva paśvó ví unoti gopā́, as 'Er mustert (die Wagen) wie der Hirt die Viehherden', adding in his note, 'Der Sinn ist wohl: er wählt den rechten Wagen aus'. A sense like 'surveys, passes on review' fits the context, and well accords with the preverb and the active voice of ví unoti, beside the middle voice of uvé 'ich sehe an mir' (Schmidt). Morphologically, the Hittite uwaḫḫa(t) representing a thematic type *uuo/e- corresponds to the nasal affix present unoti exactly as the homophonous thematic present of Lat. ind-uō, ex-uō to the nasal affix formation of Lith. aunù aũti and Arm. aganim.

Finally we may note that the relation of Hittite thematic present middle to ḫi-conjugation present active or to other char-

acterized present elsewhere recalls strongly the archaic relation noted above by Renou between the Vedic thematic middle 'éventuel' and the characterized active present; RV várate : RV vṛṇóti = Hitt. uwaḫḫat : RV unoti.

§19. It is customary to distinguish between the middle of the -mi- and of the -ḫi- conjugation, cf. Friedrich Elem.[2] §149 and Kronasser 369 with the literature cited there. It is equally customary to pay no attention to this distinction in practice, witness Friedrich §180 and Kronasser passim. It is the latter practice which is linguistically justified. An examination of the endings for '-mi-' and '-ḫi-' mediopassives shows that the only formal difference between the two types is in the 3 sg.: pres. -ta(ri) : -a(ri), pret. -tat(i) : -at(i). Yet there is no real justification for attributing these two paradigmatic types to the mi- and ḫi-conjugation respectively. If we have such oppositions as nai : neya above (both '-ḫi'), we have also cases like ešzi : eša (-mi : '-ḫi') and ari : arta, išiyaḫḫi 'spies out, makes known' : išiyaḫtari (-ḫi : '-mi'). The only justified appellation is simply 'a-middle' versus 'ta-middle'.

There is however a more serious objection, which appears both from internal Hittite evidence, and from consideration of the comparative facts. The difference between the types -a and -ta is fundamentally not a paradigmatic or conjugational distinction; it is a chronological distinction. The desinence -ta is

the successor of the desinence -a.

This has been known for some time in Indo-European studies, cf. especially Kuryłowicz, Infl. Cat. 44, 58 ff., Puhvel in Anc. IE Dial. 244, Porzig, Gliederung 57, and Meillet, Introd.[8] 233-4; the relative antiquity of the comparable desinences in Indic, Vedic pres. -e : -te, impf. -a[t] :-ta, is clear. The evidence of Hittite brings a precious confirmation to these facts, and shows that both desinences must be inheritances from the parent language; the replacement of *-o (Hitt. -a) by *-to (Hitt. -ta) was only partial, and the older and newer forms coexisted within the same systems, both before and after the separation of the IE dialects.

§20. The theoretical foundation for the renewal -o → -to (-t + o) has been explained above, ch. III §3; we have a classical instance of the replacement of a simple by an isofunctional compound morpheme. The reasons for rejecting Kuryłowicz's alternative view have been given there as well. On the other hand the 3 pl. middle ending *-nto has been correctly explained by Kuryłowicz, Infl. Cat. 44, 58 as based on the zero-function (zero person and zero voice = active) of the 3 sg. of the athematic (active) conjugation. The resulting proportion is

-t (act.) : -o (mid.) = -nt (act. pl.) : -nto (mid. pl.)

which explains the creation of *-nto (Hitt. and Indo-Ir. -anta) beside the earlier ending *-ro attested most clearly in Indo-Iranian. Kuryłowicz is likewise correct in asserting that the creation of -to must be posterior to the creation of -nto; not because of a necessary 'ordering' of analogical proportions, but for the simple chronological fact that Hittite shows 3 sg. -ta beside -a, but has already generalized 3 pl. -anta with no trace (in the middle) of *-ro. The great value of the Hittite evidence with its clear relative chronology--it is not mentioned by Kuryłowicz--is that together with the Indic facts (to be examined below) it proves that this renewal of the endings is not merely a theoretically reconstructable feature of Indo-European, but a palpably dialectal development continuing in at least two traditions until well into the historical period itself.

§21. In Hittite studies the relation between the middle endings without -t- and the Vedic 3 sg. pres. mid. -e, pret. -a[t] was first noted by Pedersen, Hitt. 101; cf. also Sturtevant, Hitt. Gr.^{2} §286. Kronasser 374 on the other hand assumes that -a(ri) is analogical, invoking in support Sommer, Heth. u Heth. 45. This is to misread Sommer, and ignore the latter's full discussion ibid. 61-62, where indeed he states that it is 'mehr geboten als bloss erlaubt' to maintain the equation eša : ešat with Ved. śaye : aśayat. Though we differ in details, the principle is clear, and the equation stands.

Consider the following case. Since Wackernagel's pioneering study of 1907 (KZ 41.309-13 = Kl. Schr. 498-502) it has been known that Vedic áśayat (RV 7x, AV 4x) to śī 'lie' was a 3 sg. middle form, with a basic desinence -a to which was added a -t for clarification of the third singular function. The corresponding 3 sg. pres. is śáye. From the comparison of primary śáy-e and secondary (á)śaya[t] we can reconstruct an Indo-European *k̂ei-o, *k̂ei-oi, which is on an older chronological level that the *k̂ei-to, *k̂ei-toi underlying Gk. impf. κεῖτο, Cypr. pres. κειτοι (Masson, Inscr. chypr, 11), Av. saēta, saēte, and Skt. (a)śeta (first ŚB), śete (not in RV or AV). The relative chronology is clear in Indic: -e -a[t] is older than -te -ta.

For this verb we have further and decisive evidence in Hittite. Already in Old Hittite is attested the 3 sg. pres. middle kitta 'lies' (BoTU 12 A III 18-25), agreeing in form with κεῖτο; but we have also the more archaic 3 sg. pres. mid. kiya < *k̂ei-o, identical with Ved. (á)śaya[t], in the formulaic phrase linkiya kattan ki-i-ya 'unterliegt dem Eid' preserved in an Old Hittite text, KUB XXXVI 109,11. The formula recurs elsewhere, as noted by Kronasser 464; he registers kiya without comment, and also without noting that the text is Old Hittite (Otten, foreward to XXXVI).

Another archaic and inherited verb in Hittite shows the same pattern of replacement of -a by -ta: eš- 'sit'. The 3 sg. pres. is eša (ešari), pret. OHitt. ešati in š-aš ešati 'and he sat' (with archaic connective šu) KUB XVII 10 I 34 (Telepinu

myth), reflecting IE *ēs-o like *ḱei-o. But in later texts we find occasionally the 3 sg. forms pres. eštari Madd., pret. eštat Madd. and AM. Here the partial replacement of -a by -ta took place during the historical period of Hittite, just as the partial replacement of śay-e by sé-te took place during the historical period of Sanskrit. This chronological reason prohibits us from deriving late Hitt. ešta(ri) from an ostensibly Indo-European *ēs-to. The latter, or its primary equivalent *ēs-toi, is assumed for the equation Ved. āste : Av. āste : Gk. ἧσται; but the example of Hittite makes it perfectly possible that these are all independent but parallel creations of post-Indo-European date. The unexplained rough breaking of ἧσται (cf. Schwyzer, Gr. Gr. 305, Lejeune, Phon. 103) would be phonologically regular if its morphological antecedent in Greek itself were *ēs-oi > ῆh-οι >*ἥ-οι, cf. εὖω < ευhω < *eus-ō : Lat. ūrō.

A third example of the same substitution of -ta for -a is given by the middle forms of tuḫš- 'separate; finish, mid. remove; be finished' where beside 3 sg. pres. tuḫša, tuḫšari we have also tuḫḫušta.

In such evident questions from the mi-conjugation as Hitt. kuen-zi kun-anzi : Ved. hán-ti ghn-ánti, Hitt. eš-zi : Ved. ás-ti, a Hittite primary tense corresponds to a Vedic primary tense; both are presents. It is important to note explicitly that in the equally evident equation OHitt. kiya : Ved. (a)śaya[t], the Hittite primary tense corresponds to a Vedic secondary tense; the Hittite form is a present, that of Vedic an imperfect. This

is alone enough to show that the traditional association of primary endings with present tense, secondary endings with preterite, is not of Indo-European date; it provides complete vindication for the theory of the injunctive with its secondary endings as the oldest form of the present, and for the great antiquity of the system of endings preserved in Celtic.

§22. There are in fact in Hittite two patterns of renewal of the basic 3 sg. ending -a. The first is the replacement -a → -ta, as illustrated above by kiya → kitta, eša → ešta. The second is additive: -a → -atta, i.e., -a + ta, and presupposes the prior existence of the first renewal -a → -ta; structurally it represents old ending -a (*-o) + new ending -ta (*-to).

We have in Old Hittite (Anittaš) the 3 sg. mid. pret. ḫuittiya(ti) 'was lead', but in the language of the New Kingdom (Hattušiliš) ḫuittiyatta(t). The same chronological relation may be noted between the 3 sg. m. -p. pres. ḫaliya, ḫaliyari 'prostrates himself' in archaic ritual texts (ta ḫaliya KUB X 11 II 17, ḫaliyari-ma-aš UL XX 99 II 5), beside the extended form in 3 sg. m. -p. pret. ḫaliyatta(t) of the more recent language of the Treaties and The Annals of Muršiliš. Similarly, in all likelihood, the relation between OHitt. laḫuwāri 'pours' BoTU 11α 11, beside the laḫuwatari of the ritual XIII 8, 8; the older form is supported by the imperative laḫuwaru KBo X 45 I 26. Though both are attested in New Kingdom texts, we may infer such

a sequence of relative antiquity for halziya(ri) → halziyatta(ri) 'calls'. As we shall see in the following chapter, the same double renewal -a → -ta and -a → -ata recurs in Indic as well.

VI. Indo-Iranian I

§1. In conformity with our plan of investigating the historical antecedents of the Indo-European thematic conjugation, and the direction taken by that concern, the present chapter will deal uniquely with a single, patently archaic inflexional category of the Indo-Iranian verb; the type śáye and related forms. The full historical analysis of the formation of the characteristic paradigmatic structures of Indo-Iranian must be reserved for the subsequent chapters: some dealing with individual verbal categories, and others with the individual dialects of Indo-European, including Indo-Iranian (ch. X).

The equation OHitt. kiya : Ved. (a)śava[t], together with the historical renewal Hitt. kiya → kitta, Skt. śaye → śete, and the identity of the latter with Gk. (Cypr.) κε϶τοϛ, is prima facie evidence for the historical significance of the Indo-Iranian type, and justification for investigating it.

§2. The full Indo-Iranian evidence for the 3 sg. middle ending prim. -e < I-Ir. *-ai, sec. -a[t] < I-Ir. *-a has not ever been gathered together. Following are the principal Vedic attestations.

While the list is probably still not complete, it is noteworthy that for the present in -e we can count no less than 28 separate roots in the RV. See Wackernagel, KZ 41.309-13 (1907) = Kl. Schr. 1.498-502 and Festgabe Jacobi 13-17 (1926) = Kl. Schr. 1.429-433; Renou, Mélanges Vendryes 310; Gr. véd. §§314, 318, 339; Whitney §§ 613, 669, 685, 719, 1007c; Avery, JAOS 10.234, 270 (1880); Thumb-Hauschild 2.207-8; Leumann, Morph. Neuerungen 7-14; Birwé, Gr.-Ar. Sprachbeziehungen 10, 42; Burrow, IIJ 1.61-76 (1957); Cardona, Them. Aor. 41-4; Kuryłowicz, Infl. Cat. 58.

Virtually all the present formations are represented: athematic, reduplicated, nasal classes, thematic, and intensive. The identity of thematic and athematic forms is particularly noteworthy; see especially ch. VIII §17 above. A number of these verbs show a specifically passive function, rather than middle; we have an instance of Kuryłowicz's fourth law of analogy. With the renewal of the old ending *-o(i) as *-to(i), the new form *-to(i) corresponds to the primary (middle) function, and the old form *-o(i) is retained in the secondary (passive) function. Cf. Esq. ling. 79.

Pres. 3 sg. in -e:

root athem.	redupl.	nas.	them.	intens.
		indhé		
íše	dadhé	vṛñjé	stáve	badbadhé
śáye			śobhe	bábadhe

vidé	śṛṇvé	tośé	jáṅgahe
dúhé	ṛṇve	mahe	jóguve
huvé	sunve	stusé	yoyuve
bruvé	hinve		cékite
cité			sarsré
	gṛṇé		carkṛṣe

The form íśe = Gāth. išē is usually regarded as an original reduplicated perfect i-iś- which has acquired the status of a root, cf. Leumann, Morph. Neuer. 13. But the consistent accent on the root syllable makes difficulties with this explanation. The Germanic cognate exemplified by the Gothic perfecto-pres. aih, 1 pl. aigum and aihum, pret. aihta, shows grammatical change but no vocalic alternation, which is wholly anomalous in both respects. The 'ärgerliche Ablautschwierigkeit' remains.

The 3 sg. cáṣṭe 'sees', probably to be equated with Av. caŝte 'teaches' as well as caŝman- 'eye', is another form with a 'quasi-root' (caks-) which has been taken as an old reduplicated perfect, cf. Leumann, o.c. 33. But the root accent here as well speaks against it, and the derivation of cáksus- 'eye' from a perfect active participle is highly speculative (more likely an extension of cáksu-). The root is kaś-, appearing in the RV intensive cākaśīti and Av. ā-kasat, hence IE *$k^{w}o\hat{k}$- (*$k^{w}o\hat{k}$-). A reduplicated

perfect *$k^{w}e$-$k^{w}\hat{k}$- presents a cluster otherwise nonexistent in Indo-European. It is preferable to take the form as sigmatic, *$k^{w}e\hat{k}s$- > cakṣ-, Av. caš-; a view supported by the Vedic imperative in -si caksi (cf. ch. X §13 below). It is not unlikely that cáṣṭe replaces an earlier 3 sg. *cákṣe, like íṣṭe from earlier íṣe, which would add another barytone form to our list. 3 sg. *cakṣe is identical with the well attested infinitive dative cákṣe.

The reduplicated 'causative' aorist 3 sg. atītape 'ist erhitzt worden' VIII 72.4 (Appendix), with both augment and primary ending, is wholly anomalous.

§3. There exists also additional indirect evidence for the same ending in other roots. It was noted in ch. II §15 that the oxytone 3 pl. middle ending -até probably modeled its accentuation on the 3 sg. in -é, e.g., RV duhé → duhaté (replacing duhré), indhé → indhaté (beside later indháte). For this reason it is possible to suggest that attested rihaté presupposes an antecedent *rihé, and similarly on the evidence of the 2 pl. forms in -até listed ch. II §15, the nasal presents 3 sg. *tanvé, *manvé, *spṛnvé, *vṛnvé, *riṇé, *puné, *añjé, *bhuñjé.

Several of the roots with attested 3 sg. -e show variation of accent in the participle, both root-accent and oxytone (cf. Whitney

§619d):

íse	:	īśāná-	~	íśāna-
duhé	:	duhāná-	~	dúhāna- (dúghāna-)
vidé	:	vidāná-	~	vídāna-
stáve	:	stavāná-	~	stávāna

By the same reasoning as in the preceding paragraph, the observable variation

ohāná-	~	óhāna-
rihāná-	~	ríhāna-
suvāná-	~	súvāna-

suggests the previous existence of 3 sg. *óhe (with accented full-grade root like 3 pl. óhate), *rihé (cf. rihaté above), *suvé. In Iranian we have only a few forms remaining in Avestan:

Gāth. isē (later ište)	cf. Ved.	īś-
mruyē (also mrūite)	cf. Ved.	brū-
ni-γne	cf. Ved.	han-.

§4. Examples of the 3 sg. preterite in -a[t], all root

athematic presents or aorists, follow; the same ending is found in the optative:

root athem.			optative
aiśa	MS		īśīya HGS
áśayat			
áduhat	aduha	MS	duhīyát
áh(u)vat			
ájusat			
(práti)	dhat		
ádat	(= á adat)		
vy ásthat	TB		

The form vy ásthat is controversial, and its incorporation here only provisional, in that it may parallel práti dhat and ádat. Cf. the discussion in Renou, Gr. véd. §339, Burrow, IIJ 1.70 (1957), and Cardona, Them. Aor. 43-44 for alternative explanations. The form ájusat requires special notice, since it does not figure in the traditional lists of forms in -a[t]. With the exception of the 'si- imperative' josi (2x), the related subjunctive jóṣat (2x, bks. I and X) and imperative joṣa (1x, bk. X), the aorist subjunctive joṣiṣat (1x), and the probably modal reduplicated perfect forms jujoṣat(i), the root juṣ 'enjoy' is inflected only in the middle or in the perfect in the RV, and indeed in later Indic as well for the

most part. Similarly in Homer we have only middle forms, aor. sub. χεύσεται etc., from the same root. For the Vedic active forms listed, see especially Narten, Sigm. Aor. 48 n. 113, 120 (with references), and Cardona, Lg. 41. 13-14 (1965), as well as for jujoṣat(i) Renou, Gram. véd. §336. They are all secondary developments, with the possible exception of joṣi which as an imperative stands apart; see on joṣi Cardona, Lg. 41.13 (1965), who regards it as secondary.

Beside the normal and expected middle forms of the sixth class present juṣá- (3 pl. juṣánta 23x) we have the 3 sg. impf. ájuṣat 8.75.14, and inj. juṣát 10.20.5. No other apparently active forms of this stem are found. The sense of the verb in the two passages is identical with that of the regular middle present juṣá-. Compare yásya ájuṣan namasvínaḥ śámīm 'an wes Verehrers Opferdienst er Gefallen gefunden hat', juṣáḍ dhavyá́ mánuṣasya 'er geniesse die Opfergabe des Menschen' with such typical passages as 6.52.11 imá́ havyá́ juṣanta naḥ 'sollen an diesen Opferspenden von uns Gefallen finden', 3.62.4 juṣásva no havyáni 'lass dir unsere Opfer gefallen' (tr. Geldner). There is thus no semantic justification for a genuine active form ajuṣat in this paradigm, and we must take ajuṣa[t] as a 3 sg. mid. imperfect formed exactly like aduha[t], aśaya[t]. Note also the 3 pl. ajuṣran 1.71.1, taken as an aorist by Grassman and Whitney, Roots. Morphologically the relation

ajuṣa[t] : ajuṣran = aśaya[t] : aśeran = aduha[t] : aduhran (AV); if ajuṣran was actually felt to be an aorist, it is formally best taken as an imperfect in origin, secondarily affected with aoristic value by opposition to the newer (or at any rate competing) imperfect 3 pl. form ajuṣanta. For the spread of the desinence -anta cf. Renou, Gr. véd. §303 and BSL 33.21 (1932).

Beside ájusa[t], juṣá[t] we have also the injunctive 3 sg. juṣata in the repeated formula agnír juṣata no gírah 'may Agni enjoy our songs of praise' 5.13.3 = 7.15.6, and the variant etá juṣata me gírah 'may he enjoy these my songs of praise' 1.25.18. To this also the impf. ajuṣata (2x), used like ajuṣat in 2.37.4 (object práyo hitám 'das vorgesetzte Labsal') but in 9.92.1 used quasi-passively: práti devám ajuṣata 'den Göttern ward er wohlgefällig'. Morphologically, ajuṣata is a later form; the development is ajuṣa[t] → ajuṣata, exactly paralleling ahva[t] (RV) → ahvata (Br.), and Hitt. ḫaliya → ḫaliyatta: see further below.

§5. The corresponding 3 pl. forms have an r-ending: pres. -(i)re < I-Ir. *-rai, pret. -ra, enlarged to -ran (-ra + nt like 3 sg. -a + t) or -ram (on which cf. Leumann, Morph. Neuer. 16-19); ultimately pres. -rate : pret. -rata, with the middle function more clearly marked. Thus:

íśire	śruviré
vidré	rṇvire
duhré duhrate	sunviré
dhire	
śére AV	hinviré

In the preterite:

aduhran	aduhra MS
aśeran	

Ostensible root aorists are

asthiran	avasran (vas 'shine')
apadran	áviśran
áyujran	abudhran (°ram)
ásṛgran (°ram)	akṛpran
avṛtran	agṛbhran
ajuṣran	aspṛdhran
adṛśran (°ram)	

A certain number of these may well be secondary, cf. Leumann, o.c. 15 ff; thus the g of asṛgran is not phonetic. On the other hand note the predominance of verse-final position for these forms, cited by

Leumann. The absence of unaugmented forms with the ending -ra(n) is curious.

Leumann, Morph. Neuer. 10, holds that dhire is 'nicht eine uralte, sondern eine künstliche Form', created at VIII 28.5 saptó ádhi śríyo dhire 'sieben Schmuckstücke haben sie angelegt' (so correctly Geldner; the parallelism with the immediately preceding saptá ṛṣṭáyaḥ saptá dyumnáni 'sieben Speere, sieben Herrlichkeiten' excludes Leumann's version, 'die sieben (Maruts?) legten Schmuck an') on the model of I 85.2 ádhi śríyo dadhire pṛśnimātaraḥ 'die Söhne der Pṛśnimutter haben ihre Prunkstücke angelegt'. Rather the contrary. For dhire occurs always in verse-final position, a sign of archaism, and always in the metrical cadence --⏑-⏑⏑ of a jagatī or gāyatrī. Beside śríyo dhire of VIII 28.5 quoted above we have also I 166.10 váyo ná pakṣáṃ vy ánu śríyo dhire 'Wie die Vögel die Flügel haben sie ihre Herrlichkeiten entfaltet', and the semantically related variant IX 68.1 parīsrútam usríyā nirníjaṃ dhire 'sie haben die (Milch der) Kühe zu ihren umfließenden Festkleid gemacht.' We have clearly to do with a formulaic expression, proper to cadence (verse-final) position; the notion 'put on, wear (like a garment, jewelry)' of the root *dhē- in the middle voice is ancient, cf. Lith. dėvė́ti < *dhē-u- : Ved. pf. dadhé.

It is I 85.2 ádhi śríyo dadhire, with the formula outside of its canonical verse-final position, which is modeled on the cadence VIII 28.5 ádhi śríyo dhire, and for good metrical reasons: the

identical cadence -∪-∪∪ required in I 85.2 (jagatī) was pre-empted there by pṛśnimātaraḥ, which in all 10 of its RV attestations is invariably in verse-final position. Thus ádhi śríyo dhire was thrown forward in the line; the substitution of the perfect dadhire gave the required syllable number, and grammatically paralleled the preceding ádhi cakrire sádaḥ. There is thus every reason to consider dhire as a genuine archaism, paradigmatically related to dhar, and showing a primary ending like dhā́ti.

The close parallelism between the roots sthā- and dhā- suggests furthermore that asthiran, occurring four times in the RV (once repeated) and always in verse-final position, may likewise be an archaism, pace Leumann, Morph. Neuer. 15. The latter's argument that sthā 'eines Mediums nur selten bedürfte' is in any case scarcely cogent, and contradicted by archaic Hittite ḫi-ya-ri (ch. V §5, III §11). Note IX 83.2 vy àsthiran 'sie haben sich ausgebreitet', which is perhaps a parallel to the problematic vy àsthan noted above: *st(ə)-o ~ *stə-ro.

Avestan shows both -re and -āire (*-ārai):

saoire	cf. Ved. śī-
mravāire	cf. Ved. brū-
aŋhaire	cf. Ved. ās-
ni-ɣraire	cf. Gk. ἐθλητο

The longer form -ā́ire may be extracted from roots in final long vowel, if (ni-)ɣrā- is to be equated with Gk. βλη- < *gʷlē-; no other forms of the verb are found in Iranian. Alternatively, it is possible that -ā́ire should be compared directly with the Latin 3 pl. perf. -ēre, as Bartholomae suggested.

Avestan 3 pl. sōiŋ̊ire = AV śáye indicates that the absence of a 3 sg. corresponding to Ved. śáye is probably accidental; the attested Av. saēte is comparable to later Indic śete, but the two are independent replacements of 3 sg. -e by -te. Similarly the 3 pl. ā́ŋhāire would suggest that Indo-Iranian inherited a 3 sg. *ās-a(i) directly comparable to Hitt. eš-a, which was subsequently replaced by the *ās-ta(i) of Ved. and Av. āste.

§6. There is further evidence, albeit indirect, for the ending *-ai; in this case not merely in Indic but Iranian as well, where a 3 sg. mid. *-e is not attested. The 3 sg. mid. imperative of Ved. duhé is dúhām, attested twice in the Rig-Veda; AV śayām to śáye (no imperative attested in RV). As Wackernagel saw, KZ 41.311 (1907), this ending -ām is to the normal 3 sg. ipv. mid. -tām as 3 sg. -e is to -te. There is no evident justification for assuming that it is a later analogical development, as in Thumb-Hauschild 2.208, following the view of Debrunner in a review of Thumb-Hirt, IF 50.98 (1932). For though dúhām appears in the 'Rātsellied' 1.164.27 dúhām aśvíbhyām

pấyas 'let her give milk for the Aśvins', and in the Appendix to Book IV (57.7) sấ naḥ pấyasvatī duhām̃ 'let her, rich in milk, give milk for us', there is nothing in the lines to indicate lateness; we have rather a clearly formulaic phrase pấyo duh-, which can well be of remote antiquity. Compare also dhenúr iva pấyo asmấsu dhukṣva in the same hymn (4.57.2), this time imperative 2 sg. But what is decisive is that both endings, -ām̃ and -tām̃, are common Indo-Iranian; cf. already Bartholomae, Grdr. 1.64. We have in the Gāthās the following examples: Y. 48.9 ərəš ... ucam 'let it be said truly'; Y. 32.6 sąghō vīdąm 'que la proclamation se répande'; Y. 44.16 ciθrā̃ mōi dąm 'que des signes me soient donnés'. The latter two translations on those of Benveniste in Les infinitifs avestiques 15, where the forms are discussed, and their interpretation as infinitives (maintained by H. Humbach, Gathas Kommentar ad loca) is rejected.

The endings -ām̃ and -tām̃ are without etymology heretofore; no directly comparable imperative forms occur in the other languages. But we may note that the same alternation of -t- and its absence recurs in the Hittite imperative 3 sg. mediopassive: -aru ~ -taru. This is clearly the basic variation between older 3 sg. -a and younger -ta, IE *-o ~ *-to. The Hittite 3 sg. ipv. m.-p. contains the basic 3 sg. middle ending (with r-element generalized) plus a particle -u: -ar + u ~ -tar + u. I suggest that the Indo-Iranian forms be similarly analyzed as basic 3 sg. middle ending plus a particle: -a + am ~ -ta + am, in Indo-European form *-o + om ~ *-to

+ om. The particle *-om I would identify with the infinitive in *-om of Oscan, e.g. deíkum, fatíum 'dicere, fari', and the -σ-ον of the 2 sg. imperative of the Greek sigmatic aorist, as well as the component -am of the secondary middle desinences -dhvam, -thām, -tām and the personal pronouns ahám tuvám etc., as suggested by Kuryłowicz, Infl. Cat. 153. The close relation between infinitive (Osc. -um) and imperative (Gk. -ον) is well known, and Gk. -ον was correctly analyzed as a particle already by Thurneysen in 1883 (KZ 27.175).

With this interpretation we may then make the specific derivation of GAv. dąm, vī.dąm from Indo-Iranian 3 sg. *d(h)a + am; the resultant verb forms 3 sg. middle *da, *dha are the predecessors of Vedic á-da-t and práti dha-t respectivaly. The AV imperative samvidām likewise testifies to the former existence of a 3 sg. mid. *(a)vida[t], which is supported by the present vidé noticed earlier; v. infra, ch. VII §1.

§7. In all these cases with 3 sg. mid. ending Ved. and/or Hitt. -a we have roots of the structure TET- (*ma-), TER- (*ḱel- gʷhen-), TEH- (*dheH$_1$-), TERT- (*dheugh-), TERH- (*gheuH-). TEH-, TERT-, and TERH- roots have the zero-grade, *dhH-é (dhat), *dhugh-é (aduha), *ghuH-é (ahuvat), and were doubtless accented on the ending, cf. primary duhé. The TER- form *ḱéi-o shows full grade, and root accent on the evidence of śáye and the participles naśúnas and śáyānah. On

the other hand the TER- form *g^{w}hn-ó shows zero-grade in Av. ni-γne. The consistent irregular root accent of the middle verb ásta in Vedic, as well as the Greek participle ἕμενος, permits us to assume a TET- type with root accent *és-o.

It is thus legitimate to speak of two basic types of archaic athematic present middle formation: one zero-grade and oxytone, the other full-grade and barytone. One cannot but be struck by the similarity in structural type to the classical thematic formations of the types ucáti and váhati respectively. We shall return to this contrast and its implications.

§8. The final evidence for the existence in Indo-European of these 3 sg. oxytone and barytone verbal forms with ending *-o/e is given by the unique compositional type in Indo-European when the first member is verbal: that of Gk. ἀρχέ-κακος, Ved. trasá-dasyu-.

These compounds, characteristic of Indo-Iranian and Greek alone in ancient times, and belonging to elevated, poetic discourse, as well as to the onomastics of the aristocracy, are studied in Wackernagel, Ai.Gr. II 1.315-20, Duchesne-Guillemin, Composés 200-202, Schwyzer, Gr. Gr. I.441-5, and especially Renou, BSL 41.217-20. Meillet noted the possible conservation of the type in Armenian, in the isolated form yeł-a-karc 'unerwartet', perhaps from yełum 'ich wechsle', aor. yeti, and karc 'Meinung'; likewise yeł-a-mit

'wankelmütig' (mit 'Sinn'). See his Etudes de ling. et phil. arm. 168, and Jensen, Altarm. Gr. §60; the examples are isolated and uncertain.

As is well known, there are two types of this formation in Indo-Iranian. The older residual one shows the bare thematic vowel a at the end of the first member : Ved. tras-dasyu-, Av. tarə̄.tbaēšah-, and the personal names of the Old Persian royalty and nobility xšayārša- (xšaya-arša-) 'Xerxes', dārayava(h)uš 'Darius', vi(n)da-farnā- 'Intaphernes'. It is this type which corresponds to the Greek formation: ἀρχέ-κακος, φερέ-πονος, δαϊ-θυμος, PN Μενέ-λαος, and with o-vocalism φυγο-πτόλεμος. The younger and only productive type in Indo-Iranian shows -at at the end of the first member: Ved. tarád-dvesas- (cf. Av. tarə̄° above), kṣayád-vīra (cf. OP xšaya° above), Av. frādat.gaēθā-. This type in -at° was ultimately identified by the speakers of the language with the weak grade of the participle; but it is clear from the historical filiation -a → -at that originally the formation had nothing to do with the participle.

It is one of the merits of Renou's study to have shown the channel for the development of the final -t: the compounds with a second member in initial dv-, like Ved. *tarád-dveṣas- = Av. tarə̄.tbaēšah-, where the sequence -ady- was the prosodic equivalent of -addy-, whence the interpretation tarad-dveṣas-. From this point the channel was open for the formation of compounds in -ad-y-, i.e. with second member in initial y- like kṣayád-vīra-, rhythmically

identical with -ad-dv-. The abnormally high frequency of second members in initial v-, in both Indic and Iranian, is a clear witness thereto.

§9. The earlier type in -a has been usually identified with the imperative, if not with the bare verbal stem; the form in -at with the participle. But it is the second great merit of Renou's study to suggest the possibility of identifying the form -at° with the injunctive: that is to say we have compounds where the first member is an original finite 3 sg. verb form, but from a system (the 'injunctive') which no longer constitutes the normal form of predication in the language, which is the present. This view is in complete accord with the analysis of the modern Western European equivalents of this type of compound, Fr. garde-chasse, Ital. porta-cenere, Eng. pick-pocket, etc., by Benveniste in L'homme 6.5-6 (1966): 'Le type garde-chasse transpose en substantif ou en adjectif un syntagme verbe + nom. C'est en partant de la fonction prédicative du syntagme *il garde la chasse qu'on peut former un composé garde-chasse, ou il garde et la chasse sont réduits à leur forme virtuelle garde et chasse.' In Indo-Iranian it is the injunctive which is synchronically the 'forme virtuelle' of the predicative function, 'exprimant la notion hors de toute actualisation

temporelle ou modale.'

If the verbal forms like Ved. tarat°, kṣayat° were thus virtual 3 sg. injunctive forms, it follows that their antecedents without -t, preserved in Iran. tarō°, xšaya° were likewise virtual 3 sg. forms, but on an earlier chronological level. It is probably the replacement of -a by -at in the normal predicative 3 sg. function which made possible the utilization of -a° in these compounds as the virtual 3 sg.; and subsequently the replacement of -at by -ati which made possible the compounds in -at°. The synchronic distance between the virtual form and the actual predicational form remained the same; likewise in virtual garde : actual il garde, with obligatory subject pronoun. As Benveniste points out, loc. cit., the interpretation of the first member as imperative is valid only for a particular onomastic type of modern times, that of Fr. Boileau, Ital. Bevilacqua (or Germ. Thudichum, Eng. Praisegod, Amer. Eng. Stepin Fetchit, or Pass-the-biscuits [nickname of a 20th cent. political figure from Texas], where one may note the presence of the definite article, as in Boileau.) It has no relevance for the formation in I-Ir. -a , Gk. -e/o, of Indo-European antiquity.

Renou cites several concrete cases of predicative expressions with the injunctive, beside the same elements in the form of a compound: bhárad vā́jam (9.52.1) 'er möge Gewinn einbringen' : bharádvāja-; vidád gā́ḥ (2.19.3) 'er fand du Kühe' : *vidádaśva- in the PN with vṛddhi váidadaśvi-. We may note also gámad índram

(9.40.2) 'er soll zu Indra gehen' : jamád-agni, and for the accusative rection Gath. aŠəm jasō (Y.43.12) 'du gelangst zur Wahrhaftigkeit'; Goth. gaëθå . . . frādaţ (Y. 46.13) 'mehrt seine Herden' : frādat.gaëθā-; with an infinitive, yonîm āsádam (9.101.13) 'um sich auf seinen Platz zu setzen' : sādád-yoni-; with the normal present with primary endings, dvéṣaṃsi tarati (9.111.1) 'er entgeht den Feinden' : tarád-dveṣas-, tarō . tbaëŠah-.

§10. In three Vedic examples of these compounds, Renou notes that there is no corresponding injunctive, and terms the forms 'totalement isolées' : ṛdhad-ray- (PN) 'Reichtum mehrend', °vāra- 'Güter mehrend'; jamád-agni- (PN) 'zu Agni gehend'; sādád-yoni- 'an seine Stätte sitzend'. Though isolated in Indic, further comparison shows that all of these forms are in fact archaisms, attesting the previous existence of inflectional forms *rdh-ó/é, *g^{w}ém-o/e, *sed-ó/é.

The first, ṛdhat , has an equivalent in Av. ərədat.fəθrī- (PN) 'die dem Vater Gedeihen schafft', which attests its antiquity. While the RV shows no clear injunctive, it has the thematic vowel subjunctive or indicative ṛ́dhat (6.2.4), which is by its vocalism unlikely to be an aorist subjunctive (to the stem in opt. ṛdhyās); we would expect in the latter case the full grade of the root, which is indeed attested in Gāth. subj. 3 sg. arədat Y.50.11. An

independent thematic optative (i.e. without thematic present or aorist) 1 pl. rdhema is attested in the AV; as we shall see in chapter XVI such forms are to be derived from underlying 3 sg. forms of the type *rdha. The accent of ṛdhat is surprising; Geldner ad loc. compares irregular rúhat at 5.36.2 beside ruhám etc.

Phonological form clearly marks jamád-agni- as an archaism; it is the only Vedic form to preserve the phonetic reflex jam- of IE $g^{w}em$-, elsewhere replaced by analogical gam-. Ved. jamat° is thus identical with the Avestan thematic vowel subj. jimat. The thematic stem *g^{w}ém-o/e underlies Ved. subj./inj. gamat, gámanti, ipv. gámantu, with the phonological reservation above. Note also the existence of an independent thematic optative 1 pl. gaméma, like rdhema.

The long vowel of sādat° is totally isolated in Indic, though there are numerous instances of a thematic stem sada-: inj./subj. sadas, sadat, impf. ásadat ipv. sada, sadatu, sadantu, and the unique 2 du. sádathas with primary ending. It is rather in Slavic that we find an exact equivalent : the thematic aorist of OCS sěsti 'sit', 1 sg. sědъ, 1 pl. sědomъ, 3 pl. sědǫ (Lunt, OCSCr.² 91). The verb in Serbo-Croatian belongs to the old oxytone class of aorist (cf. ch. VII §5 below), sjȅsti sjȅdoh sjȅde: we may reconstruct a sēd-ó/é. The same intransitive aorist form *sēdo/e probably underlies the

Lithuanian present sẽ̃st(i) 'setzt sich', pret. sẽ̃do, and intransitive present sẽ̃di, 'sitzt' inf. sėdė́ti; cf. Stang, Vgl. Gramm. 315, 321 and the discussion below, ch. VII §1.

Similar cases are found in Avestan. We noted earlier the compound frā̃dat.gaē̃θā̃-, beside the injunctive verb form frā̃dat. The verb stem frā̃da- 'fördern' (cf. Bartholomae, Air.Wb. 1012), always thematic, is built on an underlying frā̃ + dā́, i.e. *pro + dhǝ-o/e, and the -da[t] of the 3 sg. injunctive is identical with the dha[t] of RV práti dhat noted above.

In Yt.10.61 we have attested together frat.ā̃p(a)- 'die Wässer füllend' and tat.ā̃p(a)- 'der den Regen fallen lässt', the latter appearing also elsewhere. The first belongs to ²par- 'füllen, erfüllen', the second to pat- 'fliegen; fallen', but in neither verb have we an attested present stem *fra-, *(f)ta-; the respective presents are Gāth. 2 sg. ipv. pərənā̃ : Ved. pṛṇā́ti, Av. 3 sg. pataŋ, -pataiti : Ved. patan(i). The form fra[t]³ represents a *plǝ-ó/é (root *pelǝ-) unattested in any language, but structurally identical with the *ghuǝ-ó/é of Ved. huvé. And ta[t]³ continues a *pt-ó/é which recurs in the Greek aorist πτέσθαι, ἐ-πτό-μην.

In Greek we have examples both of the full grade (barytone) type *gʷém-o/a, in Μενέ-λαος, φερέ-ποινος, and the zero-grade (oxytone) type *guid-ó/é, in δακέ-θυμος < *dnk-é, to be compared with RV ipv. 2 sg. dáśa (pres. dáśati) with the accent retraction of gáchati for *gachā́ti, cf. Kuryłowicz, Accent.² 103.

§11. For the apophonic grade of the thematic vowel in the ending, Indo-Iranian is of course ambiguous. The productive type in Greek has *e*- vocalism, e.g. φερε-, ἀρχε-, but we have also isolated instances of *o*- vocalism like Hom. ἁμαρτο-ϝεπῆ, φυγο-πτόλεμος. Rather than assuming the latter to be refections of *ἁμαρτε-, *φυγε-, the standard view but a difficult one to motivate, we prefer to regard ἁμαρτο-, φυγο- as reflecting a genuine alternate form of the underlying desinence, and containing the same *o*-grade as the Hittite 3 sg. mid. (and underlying *hi*-conjugation) -*a*. The antiquity of the -ο in φυγο-πτόλεμος is also assumed by Meillet, Introd.[8] 290.

The original accentuation of this compound type is uncertain. Vedic invariably stresses the final -*á*(*t*)° , while the Greek forms usually show recessive accent and thus furnish no information. It would appear that in Indic the original accent of the verbal form was dominant in the compound (probably related to the initial position of the verb in the construct), and that of the two resultant accentual types, barytone *g^{w}*émo/e* and oxytone *u̯idó/é* , the latter was generalized.

§12. It was noted earlier (ch. V §§21-22) that Hittite shows two patterns of replacement of the basic 3 sg. ending -*e*: -*a* → -*ta*

and -a → -atta. Both are found in Indo-Iranian as well. For the first, we may recall the renewal śáya → śáte, or with secondary ending śáya[t] → aśeta; duhé → dugdhé, a form posterior to both RV and AV; vidé → vittá (AV); bruvé → bruté; íśe → íṣṭe (RV 1x). Likewise Iranian, Gāth. išē → Av. ište, mruvē → mruite. The theoretical foundation for this replacement has already been noted above, ch. III §3.

Renou (Gr. véd. §314n.) has called attention to the second pattern of renewal, -a → -ata, attested in the RV injunctive form mā́ ī́śata (13x); the development is *ī́śa → ī́śata, cf. augmented aíśa. Other instances are śh(u)va[t] → ahvata (Br.), and śjuṣa[t] → ajuṣata. Such a renewal, it will be noted, is equivalent to the creation of a thematic conjugation for an athematic verb: a form such as inj. ī́śata is the predecessor of the thematic present ī́śate found first in Bk. X, and also appearing in the AV. We have thus an extremely important channel for the formation of thematic verbs. The 3 sg. form with secondary ending *juṣáś underlying ajuṣat and inj. juṣata, with an athematic paradigm on the evidence of 3 pl. ajuṣran, is to be viewed as the source of the sixth class thematic juṣáte, the only present formed by this verb in Indic. It is noteworthy that the 3 sg. juṣáte is not yet found in RV or AV; the commonest RV forms are the 2 sg. ipv. juṣásva (50x), i.e., *juṣáś plus a particle of pronominal origin, and the 3 pl. juṣánta (23x), with the highly productive ending -anta discussed by Renou BSL 33.21 (1932). In this verb we

can observe a thematic conjugation *in statu nascendi*.

§13. There is a third pattern of renewal of the 3 sg. -*a* in Vedic, which has important implications. As we have seen, the 3 sg. -*a* is preserved as such only in the two forms *aduha* and *aiśa* of the MS; elsewhere it has been extended by the suffixation of -*t* to clarify its status as a third person form: *áduhat*, *áśayat*, *ā́dat*. But the suffixation of this empty -*t* had the significant consequence of identifying the form with a previously existing and productive conjugational type: the active formation characterized by the endings -*m* -*s* -*t*. Once the 3 sg. form **ā́da* was remade to *ā́dat*, the paradigmatic position of -*t* elsewhere in the system brought about the creation of 1 sg. *ā́dam*, 2 sg. *ā́das*, 1 pl. *ā́dāma*. Each is attested once; though the former two are found only in Book X, the latter occurs in Book V (30.15), and attests the antiquity of the renewal. In the same way the 3 sg. opt. *duhīyā́t* from **duhīyá* called forth the 3 pl. *duhīyan*.

It is apparent that the effect of this process is to create a thematic verb, but this time active in form rather than middle, as in the case of *ajuṣata*. I suggest that the so-called Indo-European thematic aorist owes its existence to precisely such a renewal. To this question the succeeding chapter is devoted.

VII. Thematic injunctives.

§1. We noted above (ch. IV §8) that Thurneysen as early as 1894 stated categorically that the only inherited thematic aorist was Ved. *ávidat* = Gk. ἐFɛδε = Arm. *egit*. His view is followed completely by Cardona, *Them. Aor.* 123, with thorough documentation and analysis, and is accepted here.

From the root *vid-* we have attested in Vedic the athematic forms with primary ending 3sg. *vidé*, 3pl. *vidré*, ipv. *vidā́m*, exactly like *duhé*, *duhré*, *duhā́m*, and *śáye*, *śére*, *śayā́m*. But while for the latter two we have the forms with secondary ending *áduha[t]*, *áśaya[t]*, no comparable secondary forms are found from athematic *vid-*. The reason is not hard to seek. On the pattern *duhé* : *áduha[t]* = *śáye* : *áśaya[t]* we expect *vide* : **ávida[t]*; I submit that the latter form is in fact the well-known thematic aorist *ávidat*, the only thematic aorist with any clear claim to antedialectal antiquity in Indo-European. From (á)*vidat* thus created, or rather from its antecedent in the dialect area comprising Indo-Iranian, Greek, Armenian, and Slavic (for the type *padṣ*, *dviṣṭ*) we have the formation of a full paradigm, RV 1sg. (á)*vidam*, 2 sg. (á)*vidas*, 1 pl. (á)*vidā́ma*, 3 pl. (á)*vidan*, exactly paralleling the creation at a later date from *ā́dat* of *ā́dam*, *ā́das*, *ādā́ma*, or from opt. 3 sg. *duhī́yat* that of 3 pl. *duhī́yan*.

From the discussion in Stang, *Vgl. Gramm.* 384-8 (citing also an unpublished work of H. Pedersen's) it would appear that

the thematic aorist type once existed in Baltic as well; but it was ultimately eliminated entirely by the spread of the ā-aorist. This suggestion further supports the view that Balto-Slavic originally formed a single dialect area, and a single 'langue commune intermédiaire', but one masked by profound subsequent innovations on either side. On this basis we may state that the eastern dialect area of Indo-European where the spread of thematic secondary endings had its locus includes Indo-Iranian, Greek, Armenian, and Balto-Slavic.

We thus suppose an Indo-European 3 sg. mid. secondary *u̯id-é/ó, primary (with deictic -i) *u̯id-é/ói. For the e- or o-grade of the desinence see further below. The primary form is continued intact in RV vidé, later renewed to vittḗ (AV). The secondary form was perhaps the first such verb to receive the affixation of an empty -t, in an Eastern dialect area of Indo-European; from this was formed the paradigm I.-Ir. (á)vidam (á)vidas (á)vidat, Gk. (with variant apophonic form of the ending) (ἐ)Fιδον (ἐ)Fιδες (ἐ)Fιδε. In the injunctive form thus obtained we may see the nucleus for the great development at a later period in both dialects--alone in Indo-European--of the category of thematic aorist and tudáti-class present.

At the same time we have accounted for the genesis of one of the two basic types of thematic inflexion traditionally reconstructed for Indo-European: that in -om -es -et (eventually with primary endings outside the 1sg.). Their synchronic structure faithfully reflects their origin: they contain the normal pro-

ductive desinences of the athematic active type -m -s -t, suffixed to the thematic vowel. The latter functioned as the ending of the 3 sg., the fundamental member of the paradigm, and it was this person, further affixed by -t, the mark of the zero-person, which served as the channel for the creation of a complete paradigm. Such an assumed development is entirely consistent with the general linguistic character of paradimatic transformations.

§2. It will be noted that this assumed development involves a hypostasis from middle voice to active. This sheds unexpected light on several Greek verbs, including some of the most common thematic aorists from inherited roots, where the present is middle and the thematic aorist active in form. Such cases are δέρκομαι : ἔδρακον ; ἀπο-πέρδομαι : ἀπ-έπαρδον ; with suppletion ἔρχομαι : ἦλυθον; τρέφομαι 'be raised, nurtured' : ἔτραφον, in Homer always middle in sense, e.g., Φ 279 (Ἕκτωρ) ὃς ἐνθάδε γ' ἔτραφ' ἄριστος. The aorist ἔτραπον to τρέπω is usually transitive in Homer, but is used intransitively, thus corresponding to the middle τρέπομαι , in κ 469 περὶ δ' ἔτραπον ὦραι and Π 657 ἐς δίφρον ἀναΐξας φύγαδ' ἔτραπε. Such association of active thematic aorist form with middle, intransitive value may thus be explained if the thematic aorist itself is a hypostasized middle form in origin. From another tradition, we may note that Humbach, Gathas 2.87 has called attention to the ostensible variation in voice between act. vīdat and mid. cistā in the same meaning in Y. 51,5 : vīspā

tā̆ pərəsas yaθā̆ ... gam vīdat vāstryō̆ / yō̆ ... ərəš̆ kərəm cistā̆

'Nach all dem frage ich, wie ... der Weidehirte die Kuh findet / und wer ... auf gehörige Weise ein gebührendes Urteil findet.'

The variation in voice is much more readily understandable if the active vīdat is by origin a middle form.

§3. Let us add in conclusion that the renewal of an original 3 sg. middle ending *-e/o by the suffixation of ostensibly active -t(i), whence an active thematic conjugation, can be documented from Hittite as well. The verb 'to break' shows in part a characteristic alternation between thematic ḫi-conjugation and medio-passive forms, according to the pattern discussed earlier (ch. V §12): pres. sg. 2 duwarnatti, 3 duwarnai ~ mid. duwarnattari, pret. sg. 1 duwarnaḫḫun , 3 mid. duwarnaddat . From such alternating forms, wholly parallel to ḫanna- 'judge', we may extract a basic underlying 3 sg. form *duwarna , in conformity with the analysis presented previously. This form underlies the active mi-conjugation 3 sg. form duwarna-zi , which is attested already in Old Hittite, in tablet A (as well as B) of the Law Code, I §12. In formation it is wholly parallel to the Indic sixth (tudáti) class.

A number of the forms of the Hittite verbs of Friedrich's class III (Heth. Elem.[2] §§177-178), showing a mixture of mi- and ḫi-conjugation, are to be explained in the same fashion. The 3 sg. parš̆iya and parš̆iyazi 'break up, crumble' alternate in the same text, written in Old Hittite ductus, in KBo XV 36 III

5, 8, 15 and II 10. Were parš̆iya- a regular active mi-verb, we would expect 3 sg. *parš̆iezzi in Old Hittite (cf. V §3 above). Rather than taking parš̆iya as a dissimilated 3 sg. hi-verb (Heth. Elem.[3] §152c), we should regard it as a 3 sg. 'a-middle' like haliya, eš̆a, the singular counterpart of 3 pl. mid. parš̆iyanda, likewise transitive in KUB XVII 28 III 6. The ostensibly active parš̆iyazi shows the same parš̆iya directly suffixed by the 3 sg. active ending -zi, like duwarna → duwarnazi. Mediopassive and hi-verb are ultimately the same, and coexistent paradigmatic forms of both in the same verb, with no semantic distinction, are frequent; cf. ch. V §§12, 15. The coexistence of 1 sg. parš̆iyahhi and 3 sg. parš̆iya is therefore to be expected, whereas 1 sg. parš̆iyami is built on the innovated 3 sg. parš̆iyazi.

Though I would not insist on the point here, one may be permitted to speculate that the common Hittite denominative 3 sg. in -ēzzi may owe its origin to the same process: the suffixation of -zi to an older 3 sg. final -ēi, itself of the same genesis as the thematic hi-conjugation 3 sg. -ēi (stem -a + -e, ch. V §17). In this case the thematic denominative verbal stem would be exactly comparable to the archaic type discussed in ch. I §7, VIII §1.

Genuinely ambiguous cases are found in Hittite of the New Kingdom, exactly comparable to the ambiguity of Ved. ávidat, (mid. ávidas[t] like ádhas[t], or active). From the verb haliya- 'prostrate oneself' we have unambiguous 3 sg. pres. mid. haliya(ri), and act. haliyazi. A 3 sg. preterite haliyat is attested in KBo

III 3 I 13 (New Kingdom), which [illegible] essence ‘88 take an arrive; but it could equally [illegible] a circle, like pres. ešaiti : pret. ēšat. The sense of the verb would suggest the middle inflection as the more original.

Such sporadic formations could occur at any time between Indo-European and the historical dialects, including the intermediary common languages. Beside the Hitt. hi-verb halzai 'calls', with alternate middle forms like halziyari (variant halz(a)ttari), we have the Luwian 3 sg. pres. haltatti KUB XXXI 143 9s, 4 (and mid. haltittari) formed exactly like duwarnazi, but showing the unassibilated 3 sg. active ending -ti, as well as the unassimilated stem tarra- beside Hitt. halza/e-. Hittite -z- in the stem is probably generalized from the by-forms in halziya-, where the assibilation r > z is phonologically regular; neither ra < *rə nor ia < *iə should yield Hitt. za, za. We may pose a Common Anatolian 3 sg. basic form halta or halta, the former appearing in Hitt. halza-i, Luw. halza-ti, and the latter underlying the iterative Hitt. halze-ške-.

One cannot decide whether the final -a of Luw. halta(-ti) continues *-ə (cf. Gk. ἔτιθε); or *-o (cf. Hitt. duwarnazi), since both vowels merge in Luw. a. But Hittite suggests that in fact both variants coexisted. For we have not only pres. duwarnazi, reflecting *-o-ti (though doubtless formed only in Hittite times), but also pret. duwarnit reflecting *-o-t, in the archaic Telipinu myth KUB XXIV 10 I 33. This variation is entirely in agreement with that noted earlier on, p §§2, 3, 5 in the secondary thematic middle forms with 2 sg. -tta(ri) ~ -tta/i, or act. 3sg.

-iyg- ~ mid. -iyami(-ri); the fact that [illegible] secondary suffixes -šk-/-šk̂g- and -yi-/-yg-, which could have a likelihood their original locus in the middle voice in Hittite ch. V §5, are ultimately built on underlying 3 sg. forms in *-ske or *-skó, *-ie or *-ió, and thus basically parallel the formation of a thematic stem *uidé or *uidó in the dialect area comprising Greek, Indo-Iranian, Armenian, and Slavic.

The assumption that the active inflexion of the Hittite thematic -šk- and -iya- verbs is built on the middle, by the suffixation of the productive athematic endings, permits us to account for a striking discrepancy between the Hittite thematic active inflexion (found only in these derived verbs) and the thematic active inflexion of the familiar 'classical' Indo-European type: the form of the 1 sg. For the productive Hittite athematic endings are -mi -ši -zi; suffixed directly to -ske (-ški) and -ie we obtain the attested -škimi -škiši -škizzi, -iemi -iesi -iezzi of Old Hittite. The passage is a direct one, and no elimination or analogical replacement of a reflex of an IE 1 sg. *-skō, *-iō ever took place.

It is less certain whether we should assume a similar development in Armenian, where we have likewise 1 sg. -em in the thematic and present subjunctive paradigms. The ending -em can be explained analogically, cf. Meillet, Esq.² 118; but it is tempting to compare pres. subj. 1 sg. -icem < *-iskomi with Hitt. -škimi, and pres. mid. 1 sg. -im < *-iyemi with Hitt. -iemi. The Armenian type in -im, while showing the active endings *-mi

*-si *-ti, clearly preserves the old middle function, and is directly comparable with the archaic Hittite middles in -iya- noted above; cf. ch. V §9 above.

§4. The evidence presented thus far has enabled us to postulate for Indo-European a pattern of verbal forms functioning as third persons, of the types

*kéi-o/é (barytone) : OHitt. kiya, Ved. (á)śaya[t], śáye
*dhugh-ó/é (oxytone) : Ved. (á)duha, duhé.

Such forms constituted the nucleus of the thematic aorists and imperfects of classically reconstructed Indo-European, i.e. those formed by the suffixation of the productive endings -m -s -t directly onto the thematic vowel. From the oxytone type we obtain thematic aorists and injunctives like Ved. (a)vidam (a)vidas (a)vidat, as well as imperfects and injunctives like (a)tudam (a)tudas (a)tudat; it is known that in the latter (tudáti) class forms with secondary ending are significantly more frequent than those with primary ending.

On this basis it is indicated to derive the typical Indo-European full-grade thematic imperfects, insofar as they do not represent later purely mechanical thematizations of old athematic forms (see Meillet, BSL 32.194-202 [1931]), from the barytone type in the same fashion. Thus we may postulate a *bhér-o/e, exactly

parallel to *kéi-o/e, to account for (a)bhūs-s (á)bharat, (é)φερον (é)φερες (é)φερε, Arm. ber-ē; the present was not conjugated athematically, as shown convincingly by Szemerényi, Syncope 188-99, hence we cannot have here a mechanical thematization. Similarly *uégh-o/e, underlying Ved. (á)vahat (and ávahata), Slav. aor. veze; *H_2ég-o/e (*ág-o/e) in Ved. ājat, Gk. ἄγε, Arm. ac.

§5. It is particularly interesting to note that Slavic preserves down to the present day in some dialects the old Indo-European opposition between the barytone (*kéi-o/e, *uégh-o/e) and oxytone (*dhugh-ó/é) types, in the intonation of the 2 and 3 sg. of the Slavic aorist with their thematic forms, as shown by H. Kǫlln, Scando-Slavica 7.260-85 (1961), and V. A. Dybo, VJ 1960,6.117. The originally barytone type shows in Old Church Slavonic s-aorist forms outside the 2.3 sg, and in these two persons in Serbo-Croatian a 'retracted' accent on the initial syllable: SCr. 1 sg. pèkoh 2.3 sg. pȅče. The originally oxytone type shows the thematic inflexion for the whole paradigm in Old Church Slavonic, but without 'retraction' in the 2,3 sg. in Serbo-Croatian: SCr. 1 sg. pȁdoh pàde, mògoh mòže. Bulgarian shows the original place of the accent in the contrast péče : možé. To some extent Slavic likewise presents the characteristic opposition in root vocalism between full grade barytone and zero-grade oxytone: pečе : *bьd'e (OCS -bǫdǫ) < *pék$^{\mathrm{w}}$e : *bhudhé, cf. RV páca-t : Gk.

πυθέ-σθαι.

In this manner we may explain the origin and genesis of the 'Indo-European' thematic conjugation with secondary endings, aorist and imperfect injunctives, as well as the thematic forms with primary ending outside the 1 sg., of the type -esi -eti -onti which follow automatically from injunctive -es -et -ont by the affixation of the particle -i. These thematic forms in -es -et -ont comprise both indicatives and subjunctives, representing latter differentiations of a unitary formal class.

There remain to be accounted for the 1 sg. in -ō and its integration into this paradigm, both as indicative and as subjunctive; the position of the classical perfect and the middle; and the special shape of the paradigm in the other persons of the singular in Greek and certain other dialects.

VIII. Thematic conjugation, athematic middle, and perfect.

§1. At the conclusion to ch. IV, §§11-12, we noted the close formal relationship, and in certain cases the formal identity, of the perfect, the middle, and the thematic conjugation, in accord with such scholars as Pedersen, Stang, and Kuryłowicz.

The views of Kuryłowicz on the formal genesis of the IE perfect have been set forth in Infl. Cat. 61 ff. and Apoph. 41 ff. Basically it is that 'a verbal adjective in -é, conveying a meaning comparable to the younger formation in -tó-,' was suffixed by elements functioning as grammatical subjects of the first two persons in nominal phrases: to use his example,

*g^{w}henó 'occisus', whence *g^{w}hen-H$_{2}$é 'occisus - ego'
*g^{w}hen-tH$_{2}$ó 'occisus - tu'.

As he points out, Apoph. 43, the full form of the desinences *-H$_{2}$o, *-tH$_{2}$o, pleads for their being originally oxytone, i.e. accented. But in Kuryłowicz's view such forms as *g^{w}hen-H$_{2}$ó, *g^{w}hen-tH$_{2}$ó, when incorporated into the conjugation (inflexion), imitated the accentual pattern of the fundamental present system, *g^{w}hén-m(i) *g^{w}hén-ti, thus shifting to *g^{w}hén-H$_{2}$o *g^{w}hén-tH$_{2}$o *g^{w}hén-e. From these forms,

via the mechanism of polarization of apophonic vocalism in derived forms (formès fondées), we obtain the classical o-grade root perfect *g^{w}hóne, etc., secondarily affected in certain dialects with the accessory mark of reduplication.

Such a development is of course hypothetical; but it is the most reasonable hypothesis on the origin of the perfect yet offered. We shall return to the problem in the succeeding discussion; the point to retain here is the nominal origin of the formation, via the channel of the 3 sg., the fundamental member of the paradigm.

The theoretical foundation in general linguistics for this process has been presented in Chapter III §2 (with references): a nominal predicate *g^{w}henó/ó may be reinterpreted as a finite verbal predicate with 3 sg. desinence zero. The history of the -l- preterite in Slavic, cf. especially Pol. miałem miałeś miał, or the preterite in Persian, kardam kardi kard, constitutes a clear typological parallel for the creation of pure verbal paradigms from originally nominal forms, through the channel of the 3 sg.

The perfect is thus by origin a denominative formation. The fundamental mediating form, e.g. *g^{w}hené above, may be equated as a stem with the denominative type Skt. *vasna- which preceded vasna-yá-, as shown in ch. II §7 above. It should be noted that this view of the denominal origin of the perfect, with its point of penetration the 3 sg. in *-e equivalent to a thematic noun stem, is scarcely new in Indo-European studies. The same suggestion, though

without attention to the formation of the paradigm and its apophonic pattern, is to be found in Brugmann, Grdr.[2] 2.3.7.

§2. In view of the fundamental identity of the desinences of the perfect and the middle, as shown by Kuryłowicz and Stang, and in view of the middle as the original locus of the traditional thematic conjugation, with the basic 3 sg. desinence *-o/e, it is indicated that this form in final bare thematic vowel is also nominal in origin.

Kuryłowicz, Apoph. 74-5 (cf. Lg. 34.385) concluded that the original locus of the thematic vowel in Indo-European was the thematic aorist, and that it was from this point that it was diffused, in a wholly unclear fashion, into the nominal system. In Infl. Cat. 116 ff, he suggests that the original locus was the present-injunctive of the tudát(i) class. But the work of Renou and Cardona has shown that neither was an Indo-European verbal category at all, hence these hypotheses cannot be upheld; cf. ch. IV §§7-8.

We suggest precisely the reverse: that the thematic nominal forms belong to the very oldest layer of Indo-European which can be reached by reconstruction, and that it is relatively easy to account for the introduction of the thematic vowel from the noun to the verb. The postulation of such a remote nominal form as Kuryłowicz's *$g^{w}hen\acute{o}$-- reconstructed internally, not by comparison--agrees prima facie with

such a conclusion. We have already seen how it is possible to explain the genesis of such late categories as the thematic aorist and tudáti class, in the preceding discussion.

Our first hypothesis then, is that the two basic types of formation underlying the thematic conjugation hitherto discussed, full grade barytone *k̂éi̯-o/e and zero-grade oxytone *dhugh-ó/é, are by origin thematic nominal forms, endowed with 3 sg. verbal predicate function (expressed by a zero-ending) in the syntactic position of nominal predicates. Both the formal features, the root vocalism and accent, are characteristic of thematic nominal forms in Indo-European from the earliest times. We may note finally that Renou already suggested, Gr. véd. §326, that the starting point of the tudáti class in Indic was precisely the very common oxytone nominal forms with zero-grade root.

To take a concrete example from the root *g$^{\text{w}}$hen- utilized by Kuryłowicz, the Avestan 3 sg. pres. mid. ni-ɣne, with primary ending, presumes an underlying I.-Ir. 3 sg. *ghn-á, oxytone with zero-grade vocalism. This verbal form itself is derived from the I-Ir. nominal form *ghn-á, preserved as the second element of compounds as in Av. vərəθra-ɣna-, Ved. go-ghná-.

§3. Let us return to the formal process of the formation of the class. A structural characteristic of the paradigmatic development

assumed by Kuryłowicz for the perfect is that the nominal form syntactically interpreted as a 3rd person prediction, $g^{w}hen\acute{e}$ 'occisus', is to be segmented as root $g^{w}hen$- + suffix zero + 3 sg. desinence -e. Such an analysis is necessary to explain $g^{w}hen$-$\hat{g}\acute{o}$, $g^{w}hen$-$t\hat{g}\acute{o}$, root + suffix zero + 1, 2 sg. desinence. The motivation for this cut is not hard to see: it simply follows the pattern of the active $g^{w}h\acute{e}n$-t, likewise root + zero suffix + desinence, and the segmentability of $g^{w}hen$- in the active paradigm would impose its isolation in $g^{w}hen\acute{e}$ as well. In just this fashion we have explained the isolation of a desinence -s or -u in ch. III §§8-9 above.

Structurally, this means that the original form *$g^{w}hen$-$\acute{e}$, root *$g^{w}hen$ + suffix $\acute{e}$ + nominal desinence zero, is reinterpreted as root $g^{w}hen$ + suffix zero + verbal desinence $\acute{e}$; whence the commutability of 3 sg. $\acute{e}$ with the other desinences -$\hat{g}\acute{o}$, -$t\hat{g}\acute{o}$.

§4. Now from the evidence presented in ch. III §2 (cf. Celtic Verb §§7-8, Kuryłowicz, Infl. Cat. 149) we know that this is not the only way in which a paradigm may be created. Where a 3 sg. with zero-ending exists, the general linguistic tendency is toward the establishment of a commutability of the overt endings of the other persons with 3 sg. zero. We are led to our second hypothesis: it is not only legitimate but necessary to admit a competing segmentation

of the type *$g^{w}hen\acute{e}$ as root $g^{w}hen$ + suffix $\acute{e}$ + 3 sg. verbal desinence zero. With the commutability of zero with the other desinences, the further constitution of a paradigm is automatically

1 sg. *$g^{w}hen$-$\acute{e}$-H_2o

2 sg. *$g^{w}hen$-$\acute{e}$-tHo

3 sg. *$g^{w}hen$-$\acute{e}$.

This paradigm, constructed purely theoretically, exists in fact. It is the simplest and oldest form of the Hittite thematic medio-passive and thematic hi-conjugation:

neyahha	*waštahha	>	waštahhi
neyatta	waštatta	>	waštatti
neya	*wašta	>	waštai.

§5. The only difference is that the -a of neya, *wašta reflects *-o, not *-e. In this case we may assume apophonic *$g^{w}hen$-o, whence *$g^{w}hen$-o-H_2o *$g^{w}hen$-o-tH_2o. We have already seen that there is a genuine variation in the vocalism of the underlying thematic vowel form, reflected in Hitt. -ški-/ška-, -ie-/iya-, Gk. ἀρχε-/φυγο-. This variation must ultimately go back to the thematic nominal formation itself; compare the variation in such archaic categories of

case as the thematic locative, Gk. οἴκοι ~ πανδήμοι. Similarly the genitive singular in *-es/-os, significantly both of consonant stems, as in Lat. pedis ~ Gk. ποδ-ός, Lat. nominis ~ OLat. nominus, and in archaic thematic stems like pronominal Goth. þis, OCS česo < *tes-o, *k^{w}es-o ~ OE þæs, hwæs < *tos-o, *k^{w}os-o, or ambiguous Ved. ás-ya < *e/os-io ~ OIr. a 'his', MW eidd-aw < *es-io. Such alternations lie too far back to be explainable by present day techniques of historical linguistic analysis; cf. Kuryłowicz, Apoph. 75-6.

As for the ulterior development of the distribution of the two apophonic variants, there is a tendency to confine the o-variant to cases where in the later system the form is specifically a middle, opposed to an active (Hitt. neya). Where the form is neutral as to diathesis, as in the perfect, or where it is an active opposed to a middle, we find the e-variant (Gk. ἔ-γνωκα) in active forms, though the same in the corresponding middle (Gk. -ε-ται). This repartition doubtless represents a secondary development, witness Hitt. -i-tta ~ -a-tta, albeit of late Indo-European date.

In one case, however, there is a purely phonetic repartition. In the paradigm given above with 3 sg. *g^{w}hen-é, the 1 sg. g^{w}hen-é-H$_{2}$o would be automatically replaced by *g^{w}hen-é- H$_{2}$o, as a consequence of the phonetic passage of e to o before H$_{2}$. Cf. Kuryłowicz, Apoph. 168. It is quite likely that the distribution of e/o- vocalism in the resultant paradigm was imitated by the secondary formations in

e/o + m -s -t. Thus

*-o- $\underline{\underline{\text{ə}_2}}$o	whence	*-o-m (Gk. -ον)
*-e- t$\underline{\underline{\text{ə}_2}}$o		*-e-s (Gk. -ες)
*-e		*-e-t (Gk. -ε).

In view of the late date of the formation of the classical thematic aorist/imperfect type, this explanation is to be preferred over that advanced by Kuryłowicz in Apoph. 72-3.

§6. Let us look further at the subsequent development of such a paradigm as we have reconstructed. The prototype of Hitt. neya-, in Indo-European shape (here given as anir; whether the root was originally set, cf. RV du. nītam, pple nītá-, is for our purposes here irrelevant),

*neio $\underline{\underline{\text{ə}_2}}$o

*neietəo

*neie ,

would yield regularly, with loss of the laryngeal -oəo > -oo and contraction -oo > -ō,

*neiõ

*neieta

*neie .

We see at once the formal source for the classical Indo-European thematic active 1 sg. in *-ō, e.g. Skt. nayā(-mi), Gk. -ω, Lat. -ō, OIr. -u. The total absence of this ending from Hittite is due to the simple fact that the elimination of the intervocalic *-ə₂- (Hitt. -ḫḫ-) with subsequent contraction has not yet occurred.

One may observe that the explanation here offered, phonetically a contraction process *-oəo > *-oo > *-ō, is fundamentally different from that advanced originally by such scholars as Kuryłowicz and Pedersen, and later followed by Adrados, Ivanov, and Cowgill, who envisage a compensatory lengthening process *-oə > *-ō. The latter explanation is morphologically unsatisfactory, since the putative *-oə is unrelated to comparable paradigms and other persons of the same paradigms; it is phonologically unsatisfactory, since it cannot reconcile the vocalism (vowel coloring) of *-əo > Gk. -α and **-oə > Gk. -ω.

§7. Let us note at the outset that the resulting paradigm in the singular *-ō *-eta -e, again constructed purely theoretically, likewise exists in fact in an attested Indo-European language.

Reserving the full discussion for the detailed section on Tocharian, we may state that the normal thematic active paradigm in B, e.g. ākau āśt(o) āśäm, may be reconstructed as *ag- plus endings *-(ā +)ō *-eta *-e(+ pronominal n-). The 1 sg. shows an inner-Tocharian analogical generalization of the form proper to stems in final -ä-; but we have the pure ending *-ō in 'athematic' B yoku 'I (will) drink' < *ek^{w}-ō. The underlying paradigm is

$$*H_2 \acute{o} go\text{-}H_2 o > *agō$$

$$*H_2 \acute{o} ge\text{-}t H_2 o > *age\text{-}ta$$

$$*H_2 \acute{o} ge > *age$$

with the same barytone 3 sg. *$H_2 \acute{o}$ge (*age) which was postulated above (ch. VII §4) for Ved. ájat, Gk. ἄγε, and Arm. ac. The 1 sg. form is naturally that continued in Gk. ἄγω, Lat. agō etc.

§8. Such a view, moreover, permits us to account for other problematic paradigmatic forms in various languages. Consider the root *$do_{\underline{x}}$- (*dō-) 'give'. We may reconstruct a paradigm with zero-grade root

*$d\underline{x}o\text{-}H_2o$

*$d\underline{x}o\text{-}tH_2o$

*dǝo .

All three forms are attested in the historical languages:

Lat. 1 sg. pres. dō = Gāth. 1 sg. aor. subj. mid. dā(-nē) Y.44.9

Hitt. 2 sg. pres. mid. datta

Ved. 3 sg. aor. mid. á-da[t].

We may thus completely vindicate the view expressed by Pedersen (Hitt. 82) that Lat. dō represented an archaic conservation, rather than an innovation.

The basic form of the above paradigm is the 3 sg. *dǝo attested in RV ádat. In terms of the genetic process sketched above, the verbal function of this form results from the reinterpretation of a nominal form *dǝo as a 3 sg. finite verb with desinence zero. The nominal form is in fact attested in the Rig-Veda : the infinitive dative dé 5.41.1, in archaic verse final (cadence) position. Cf. Renou, Gram. véd. §369.

The elimination of such an overshort form as 3 sg. *dǝo, monosyllabic in final short vowel, is easily foreseeable. So in Indic the form was preserved only in close composition with preverb á, and it is interesting to note that the padapāṭha never segments ádat. In Hittite the 3 sg. form was renewed by the addition of the 3 sg. ending -ta, whence 3 sg. m.-p. pres. datta(ri), pret. datta(t).

This process of the renewal of *da → datta is identical with that discussed above (ch. V §22) in Hittite, e.g. ḫuittiya(ti) → ḫuittiyatta(t), and Indic (ch. VI §12), e.g. a-juṣa[t] → a-juṣata. In view of the observable renewal *dəo (Ved. ádat) → *dəoto (Hitt. 3 sg. mid. datta), as well as the existence of 1 sg. *dəoəo in Lat. dō, it is possible to explain Ven. zoto /doto/ as reflecting the same renewed form *dəoto; it would thus not be directly equatable with Gk. ἔδοτο = Skt. ádita < *də-to.

§9. From the aorist indicative RV āpat, injunctive AV mā́ prā́pat (5x), and aorist subjunctive (?) RV (Bk. 10) āpas (cf. Cardona, op. cit. 30), we have a Vedic thematic stem āpa-, whence the optative AV prāpeyam. This thematic stem recurs in Hittite in the same verb, where to the athematic active ap-zi we have a thematic middle in the 3 sg. pret. aṛḫa appa-ttat in the mantic text KBo II 2 II 42. The Hittite ending -atta as noted earlier represents an enlargement (by -ta) of the old 3 sg. middle ending -a as in eša, kiya. For the middle voice, cf. Latin apīscor. We may posit an Indo-European 3 sg. *ēp-o/ēp-e (the root vocalism of appattat is probably a Hittite innovation) which is continued both by the thematic present-aorist of Hittite and Indo-Iranian, and by the perfect of Indo-Iranian (RV āpa) and Latin (co-ēpit).

§10. We can make the same derivation in the case of the thematic secondary suffixes *-sḱe-/-sḱo- and *-i̯e-/-i̯o-. The postulated paradigm, parallel to the cases above, would be in the singular

*-sḱo-h₂o	or	*-sḱo-h₂o
*-sḱo-th₂o		*-sḱe-th₂o
*-sḱo		*-sḱe .

The first paradigm, with o-grade suffix, is preserved as such in the Old Hittite middles 1 sg. eškahḫa, 3 sg. [DUGUD-eš]͡ka-ttari, ipv. duškiška-ttaru, with the additive renewal of the 3 sg. ending, -a → -atta = *-o → *-oto. The second paradigm, with e-vocalism outside the 1 sg. (where e > o regularly before h₂) is attested in Old Hittite as well, in the alternative 3 sg. mid. forms duškiški-tta, ipv. uiški-ttaru, with additive renewal *-e → *eto. The Hittite variation -šḳi ~ -šḳa, as well as -ie ~ -iya, is directly comparable to the Greek variation ἀρχέ (-κωμος) ~ φυγο (-πτόλεμος). Finally the entire second paradigm underlies the present active of the West Tocharian ninth class: -skau -st(o) -ss-äm.

With contraction of the laryngeal in the 1 sg., we have entirely regularly *-sḱoh₂o > *-sḱō, thus obtaining the active ending of Lat. poscō, Gāth. pərəsā, OIr. arcu < *pr̥k-sḱō, and

Gk. -οκω.

In these cases of secondary deverbative suffix as well there is a clear relation to the well known nominal suffixes in *-i̯o/e-, *-sḱo/e-. For the latter in particular compare the discussion (with literature) by Brugmann, Grdr.^{2} 2.3.351.

§11. The relation of the perfect paradigm to that of the original thematic type is exactly that of the Hittite hi-conjugation to the Hittite thematic (middle), as discussed in ch. V §17). The contrast in segmentation

(hi)	(them.)
eš-ḫa	ney-a-ḫḫa
eš-ta	ney-a-tta
eš-a	ney-a

precisely mirrors that of the reconstructible

(perf.)	(them.)
*u̯oid-ə̯o	*ueĝh-o-ə̯o
*u̯oid-tə̯o	*ueĝh-e-tə̯o
*u̯oid-e	*ueĝh-e

That is to say in view of the preceding chapter that the contrast between the perfect and the thematic conjugation goes back to a split or morphological differentiation of a single (originally nominal) form into two separate paradigms, arising out of competing segmentations of the basic 3 sg. form. To illustrate with the hypothetical form *g^{w}hene/o:

g^{w}hene/o →

I
- g^{w}hene/o-ŏo
- g^{w}hene/o-tŏo
- g^{w}hene/o-∅

II
- g^{w}hen-ŏo
- g^{w}hen-tŏo
- g^{w}hen-e/o .

In I we have the segmentation stem g^{w}hene/o- + desinence (3 sg. zero); in II, stem *g^{w}hen- + desinence (3 sg. -e/o). Both segmentations are well motivated; that of I by the general linguistic tendency toward a 3 sg. zero ending, and that of II by the existence of the stem *g^{w}hen- with the athematic endings -m -s -t.

It may be noted that the competing segmentation leading to a two-fold paradigm can be paralleled by the Sanskrit precative. From the 3 sg. (bhū)-yās we have both a 1 sg. -yāsam, with commutability 1 sg. -am ~ 3 sg. zero like *-ŏo ~ zero, and a 1 sg. -yām, with commutability 1 sg. -m ~ 3 sg. -s, like *-ŏo ~ *-e/o.

§12. The type II itself undergoes a further split or differentiation, as first shown by Kuryłowicz, Infl. Cat. 62-3 (without considering our type I). The effect is to differentiate the perfect and the athematic middle of classical Indo-European.

In one case we get a paradigm semantically subordinated to the present, which imitates the apophonic paradigm of the latter, with full grade accented root in the singular and zero-grade root with accented endings in the plural, but adopts full grade o-vocalism by polarization from the e-vocalism of the basic (present) form. Hence the perfect,

(IIa)	$g^{w}hón\text{-}H_{2}o$	$g^{w}hn_{\text{̥}}\text{-}mé$
	$g^{w}hón\text{-}tH_{2}o$	$g^{w}hn_{\text{̥}}\text{-}(t)é$
	$g^{w}hón\text{-}e$	$g^{w}hn_{\text{̥}}\text{-}r(ó)$.

The formation could be secondarily affected with the accessory mark of reduplication, like other verbal formations in Indo-European; this probably represents a relatively late and dialectal development. The endings could furthermore be suffixed by the optional particle -i; thus *-H_{2}oi, *-tH_{2}oi, *-ei, cf. OLat. -ī (Fal. -ai) -(is-)tī -ī(t) < *-ai *-tai *-ei, OCS 1 sg. -ě < *-ai in vědě 'I know', 3 sg. -i(tъ) < *-ei in the type mьni(tъ) = Lith. mìni < *$m_{\text{̥}}$n-ei (Kuryłowicz, Infl. Cat. 79-84). In Indo-Iranian and Greek these forms in -i were secondarily utilized for the innovated perfect middle, in imitation

of the athematic middle (on which see below). On the other hand in Hittite the forms with -i are confined to the active voice hi-conjugation), and the middle shows -i only in conjugation with the element -r-.

§13. In the other type, the resulting paradigm was apophonically and accentually immobile. The absence of an apophonic paradigm in this group shows that it was not semantically subordinated to the athematic active present-aorist system but coordinate with it. In accent and apophony the pattern of the basic 3 sg. (originally nominal) form was repeated throughout the paradigm. The oxytone zero-grade type *dhugh-ó (Ved. duhé) generalized the zero-vocalism with accent on the desinence; the barytone full grade type *k̂ei-o (Ved. śáye) generalized the e-vocalism and root accent. Thus

(IIb)	dhugh-e̯ó	dhugh-mé	k̂éi-e̯o	k̂éi-me
	dhugh-te̯ó	dhugh-té	k̂éi-te̯o	k̂éi-te
	dhugh-ó	dhugh-ró	k̂éi-o	k̂éi-ro.

Doubtless beginning in Indo-European times, but continuing into the historical period in both Hittite and Indo-Iranian, is the tendency to replace the 3 sg. *-o by *-to. In this paradigm as in the perfect, the endings could be suffixed by the optional

particle -i; thus *-o̯oi, *-(t)oi, etc., cf. Ved. -e, -(t)e, Arcado-Cypr. -(μ)αι, -τοι.

In this fashion we may account for the immobility in accent and vocalism of the paradigm of the athematic middle in Indo-European; it is genetically unrelated to the accentuation and apophony of the athematic active. The fact that the verbs of the clearly archaic barytone type *kéi-o are predominantly media tantum (cf. Whitney §628), like śáye : OHitt. kiya, áste : Hitt. eša, váste : Hitt. veštа : Gk. (plupf.) ἕστο, would suggest that the whole type IIb originally constituted a separate derivational class of verbs in Indo-European. Cf. also Gk. στεῦτο : Av. 3 sg. pret. staota, further below.

§14. A clear case is Gk. εὔκτο (cf. Schwyzer, Gr. gr. 679 A.6) : Gath. aogədā, and RV 3 pl. óhate = Av. aojaite, with the full grade even in the participle Hom. εὐκτός : Av. aoxta-. The Avestan pple. aoxta- shows a later form in that the cluster treatment no longer follows Bartholomae's law, but it is still archaic in vocalism. Cf. also Av. 3 sg. pret. mid. aoxta beside Gath. aogədā. The forms in Greek and Iranian still reflect full grade *eug^{w}h-, despite Kuiper, Nasalpräs. 230 and Duchesne-Guillemin Krat. 7.24 (1962). Gk. εὔχομαι represents a secondary thematization of an athematic form even though pre-Mycenean in date (cf. euketo = εὔχετοι), and like

but independent of Ved. 3 sg. ókate; the augment would not be expected in Gāth. aogədā or Av. aoxta. Gk. κρέμαμαι is etymologically isolated, but belongs to the same type.

It should be noted that the full grade of the -tó- participle of a TeKT- root, as in εὐκτός : aoxta-, is probably an archaism, independently attesting the ancient immobility in vocalism of the old athematic middle. Thus original 3 sg. *éug^{w}h-o (later renewed to *éug^{w}h-to and ultimately thematized) → verbal adjective *eug^{w}h-tós. We may observe the same non-apophonic behavior in Lat. ūsus < *oit-tós to the old middle ūtor (cf. OLat. inf. oitier, Osc. úittiuf < *oit-ion- formed like OLat. pac-iō). Hence it is probably indicated to compare ūsus < *oit-tós in apophony with Greek οἶσ-τός, to the root of the future οἴσω, οἴσομαι < *ois-se/o-. The affinity of the thematic suffix *-se/o- of the Greek future with the middle voice has already been discussed, ch. V §10.

§15. The close paradigmatic association principally of the oxytone type *dhugh-ó with the old athematic present or aorist (e.g. *dheugh-t, Ved. dógdhi), as middle opposed to an active, may well be a later development, in accord with the tendency for the forms with the endings *-o̯o, *-to̯o, *-e/o, *-r to move from the status of derivational to that of inflexional forms (cf. Kuryłowicz, Infl. Cat, 72).

The final development, once this paradigmatic (inflexional) status was achieved, is the aspectual repartition into present middle and aorist middle, by the adaptation of the stem form of the corresponding active. Thus for example we obtain the prototypes of both RV 3 sg. pres. vṛñjé (whence vṛñkte) and 3 sg. aor. ávṛkta (presupposing an anterior *u̯rg-ó without -t-). The assignment of a given form to present or aorist may vary from language to language. Thus the *g$^{\text{w}}$hn-o(i) of Av. ni-ɣne is a present, while the same form (with the ending -to) *g$^{\text{w}}$hn-to is an aorist in Gk. (Hsch.) ἀπέ-φατο· ἀπέθανεν.

§16. In some cases it is possible that the (full grade) active is posterior to the (zero-grade) middle, and built on it. Athematic active forms of duh- are in the RV only 3 pl. duhánti, duhúr (significantly an r-ending); full-grade 3 sg. dógdhi, ostensibly < *dhéugh-t(i), is later. Similar derivations of active forms from middles ('deponents') are well attested in the classical languages: Lat. conflictari → conflictare, ἀγάλλομαι → ἀγάλλω, cf. Kuryłowicz, Infl. Cat. 85 with references. The particular apophonic behavior of the type mā́rṣṭi, stauti discussed in ch. II §4, probably arises out of such conditions, i.e. a new active built on an original middle. On the root stu- see below; for mṛj- note that it may form an imperfect in 3 pl. -ur (Whitney §621a, from Pāṇini) like duhur.

An ancient zero-grade (oxytone) athematic middle is the verb 'to die'. In the Hittite legal protocol XIII 35 IV 45-6 we have the proverb-like (hence archaic) phrase martari-war-at-kan nu-war-at-kan aššzi, which Güterbock, Corollia Ling. 67, renders 'Es geht verloren und es bleibt übrig (d.h. solche Tiere kommen um oder bleiben am Leben).' The verb form marta(ri) is an exact cognate of AV 3 sg. aor. mid. inj. mṛta 'died.' The RV attests the same root aorist middle in 2 sg. inj. mā́ mṛthāḥ 'du sollst nicht sterben' X 95.15 (the Purūravas and Urvaśī folktale), and in 1 sg. opt. adyā́ murīya 'noch heute will ich sterben' VII 104.15, syntactically comparable to αὔτινα τεθναίην Σ 98.

RV VII 104.15 reads in full adyā́ murīya yā́di yātudhā́no ásmi 'Noch heute will ich sterben, wenn ich ein Zauberer bin'. The verse is hypersyllabic, cf. Arnold, Ved. Metre 224-5, 310. Delete ásmi; the result is a canonical triṣṭubh – ⏑ – ⏑ | – ⏑ – ⏑ and an archaic nominal sentence in the first person, yā́di yātudhā́no 'if [I am] a sorcerer', unambiguous because of the preceding 1 sg. murīya. For a nominal phrase in a condition cf. Hitt. takku ITU 10 KAM 'if [it is] the 10th month' Laws I §§17, 18.

Hitt. marta(ri) is from *mṛ-to, pace Kronasser, Etym. §18.3; the alleged examples of his phonetic rule er + C > ar + C are all either morphological extensions of the zero-grade (e.g. warp-) in TeRT- roots, or genuine Ablaut (e.g. kard- 'heart'). The Hittite full grade active marzi (mirzi, merta), significantly used always with the

preverb arha (contrast martari, uncompounded) is in all likelihood an innovation: a full grade active built on a zero-grade middle, like dógdhi above. The late and special character of mer- is further indicated by the causative mernu-, where the e-vocalism (full grade) cannot be original; the deverbative -nu- verbs are built on the zero-grade of the root (including aŝeŝanu- with the morphological zero-grade in e of ḫi-verbs). On mirzi cf. also Ivanov, Obŝč. sist. 133-4, who likewise regards the middle as more ancient.

§17. Let us consider a concrete case to illustrate these paradigmatic developments. Gk. στεῦται (medium tantum) as against Av. full grade middle staota but also full grade active Gäth. 1 sg. pres. staomī, 3 sg. Av. staoiti, would suggest that the middle paradigm of this verb was originally independent of the athematic active. This is supported by the situation in the Rig-Veda, where the athematic present is only active: 3 sg. inj. staut, 3 pl. pres. stuvanti. In Vedic, the middle is full grade, but thematic: 3 sg. stávate, and with the archaic 3 sg. ending, stáve. The root is found only in Indo-Iranian and Greek. One is tempted, however, to compare also Hitt. 3 sg. mid. iŝtuari 'becomes known', OHitt. 3 sg. pret. iŝtuati (Telep.). For the semantics cf. perhaps OIr. noíd 'makes known, celebrates the fame of'.

The Gāthā-Avestan active participle of staomī has the form (nom. sg. masc.) stavas (Y. 34.6, 50.4, 9) < *stav-at-s, contrasting with the Vedic ppl. stuvánt- which shows the zero-grade root and accented full-grade suffix -ánt- which is normal for the active athematic type (cf. Gk. ἰών, Ved. yánt-). The Gāthic form attests the reduction of suffix -e/ont- to -nt- > -s- after columnally accented root : {stéu-e/ont-} → *stéunt- (stavas); it thus furnishes indirect evidence for the same thematic verb-stem stava- in Iranian as in Ved. astáva. See further on this form the appendix to ch. X below.

It is then possible in this verb to derive both the Greek and Iranian athematic middle, and the Vedic thematic middle (and Gāthic participle), from the same original. The basic form *stéu-e (cf. RV nominal stáva-) is differentiated into a thematic stem (I) with 3 sg. zero-ending *stéu-e(i) and an athematic stem (II) with overt 3 sg. ending *stéu-o(i). The critical position of the archaic RV 3 sg. stáve is evident; while a thematic form I, as shown by its later evolution, it is structurally identical with an athematic form II like śáye. The 3 sg. of (II) is renewed as -o(i) → -to(i), according to the pattern described above; the final renewal, posterior to the rise of -o → -to and still observable in the Rig-Veda, is that of -e(i) → -ata(i) in (I). Thus

(I) *stéuo(i) = RV stáve (6x), whence stávate (4x) *stéuo →

(II) *stéu-o(i) → *stéu-to(i) = Gk. στεῦτο, Av. staota.

In this manner we may account for the coexistence of athematic and thematic paradigms of the type Hitt. nehhi : nehahha, uhhi : uwahha, and their Indic counterparts, pointed out in ch. V §18. At the same time the identity of athematic and thematic conjugations in the archaic Indo-Iranian 3 sg. -e, noted with examples in ch. VI §2, receives its explanation.

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§18. From the functional point of view, the emergent perfect expressed state as opposed to action. The emergent middle expressed 'internal' (implication of the subject) as opposed to 'external' action (the active voice), and ultimately the passive, to the extent that either or both were systematically integrated as inflexional rather than the antecedent derivational forms. Cf. Gk. ὄλωλα 'I am lost', ὄλλυμαι 'I am being destroyed', ὄλ-νυμι 'I am destroying'. But these clear functional oppositions, to a basic active present, probably represent a relatively late development in Indo-European itself. For their integration as inflexional rather than derivational forms is only partially accomplished in Hittite, where the greater part of middle verbs are media tantum, or else coexist with

ḫi-conjugation (rather than mi-conjugation) verbs. And while the Hittite ḫi-conjugation may be (in part) plausibly compared with the Indo-European perfect, it is clear that the ḫi-conjugation is a derivational, not an inflexional category. As such we cannot say that the ḫi-verbs continue the perfect, but only that a nucleus of the ḫi-verbs reflects Indo-European forms similar to those from which, subsequent to their passage from the status of derivational to that of inflexional forms, the classical Indo-European perfect is to be derived. Cf. especially the remarks of H. Van Brock, RHA 75-153 (1964). At the same time the facts of Hittite permit us to state that the creation of both a thematic and an athematic middle, according to the pattern sketched above, must antedate the creation of a perfect in the classical Indo-European sense.

It is significant that in the small number of cases where a Hittite ḫi-verb appears to correspond to an Indo-European perfect, the ḫi-verb is as often thematic as athematic. Thus we have the following athematic ḫi-verbs beside perfects of other languages:

ar-ḫi	'I come'	:	Ved. ṛ́ra (but cf. also ṛ́rte)
u-ḫḫi	'I see'	:	Ved. uvé
takk-i	'is like'	:	Lat. didicī docuus (*dok-).

For the (root) etymology of the Hittite verb takkī, cf. Laroche, BSL 58. 70-1 (1963); on the root *dek-, though without attention to

didicī, Redard, Sprachgesch. u. Wortbed., 351 ff. We may note the contrast in vocalism between uḫḫi (zero-grade) and arḫi, takki (full grade).

Beside these forms we have however instances where the Hitt. ḫi-verb is thematic, and therefore is formally closest to our paradigm type I above, rather than the IIb of the perfect: šipand-aḫḫi 'I make offering, perform a rite' : OLat. spopondī, spōnsus, spōnsīs gl. spoponderis (Fest.), all of which suppose *spond-; mem-aḫḫe 'I say' : Lat. meminī. The verb šaggaḫḫi is usually thematic in the 1 sg. (once šakḫi XXX 16 Vs. 10') and always athematic in 2 and 3 sg. šakti šakki. Etymologically I would suggest that the base *sok- stands in relation to the *sḱ-ī- of Lat. sciō as the *bhr-g- of OIr. bof and Av. bvāvə (redupl. /bubāvs/) to the *bhu-ī- of Lat. fiō and OIr. bū.

In view of such contrasts it must be stated that a direct connection of Hittite ḫi-conjugation and IE perfect is not admissible. Rather we can say that the ḫi-conjugation simply represents a by-form of the middle, both thematic and athematic, and its genesis is comparable to that of the latter two as sketched above.

As regards the characteristic root vocalism a of the ḫi-conjugation (with the exception of zennai 'finishes'), it may be of several origins. In some cases it appears to reflect a genuine apophonic o-grade, as in šakk-i, and takk-i < *dok- beside the *dek- of δέκτο; but even here the a-vocalism appears elsewhere, as in the related takš- 'put together', with a root form *dok̑s- recalling Gk. δόξα. Kuryłowicz, Infl. Cat. 68, has noted that the a-vocalism can

also go back to a morphological zero-grade, rather than an o-grade; its traditional identification with the o-grade of the perfect would thus be wholly illusory. In one case we can equate the Hittite a-vocalism with original radical o-vocalism of cognates in other languages, which have apparently nothing to do with the perfect: the thematic ḫi-verb gank-aḫḫi 'I hang', which reflects the same *konk- as Goth. hāhan (< *hank-an) 'hang' and Lat. cunc-tārī 'hesitate'.

§19. In résumé, the development of this part of the Indo-European verb sketched so far may be presented as follows. The symbols R = root, S = suffix, D = desinence, ∅ = zero. An originally nominal form R + e/o, in the syntactic function of predicate, is reinterpreted as a 3 sg. verbal form. In conformity with the tripartite structure R + S + D of the Indo-European inflected word, this 3 sg. verbal form undergoes a split in segmentation: (I) R + e/o + ∅, and (II) R + ∅ + e/o. With the commutability of the elements -ǝo, -tǝo in the D-slot with ∅ (I) and e/o (II), we have a differentiation into two separate paradigms, one 'thematic' (I) and one 'athematic' (II). From both I and II we have in Hittite a middle and a quasi-deponent conjugation, viz., the thematic middle and thematic ḫi-verbs on the one hand, the athematic middle and athematic ḫi-verbs on the other. In each case the forms still

basically represent derivational rather than inflexional categories.

In the remaining Indo-European languages, the athematic type II bifurcates into the classical perfect (IIa) and the athematic middle (IIb), both being formally and functionally opposed to the basic present active, and having thus passed from the status of derivational to that of inflexional categories. The thematic type I in the remaining Indo-European languages, while formally identical with the Hittite thematic middle, is functionally restructured as an active, by opposition to a newly created and differentiated thematic middle. This process took place somewhat differently in the pre-history of the individual languages, such that the detail varies considerably. It is to the detailed examination of the history of the constitution of the thematic paradigms in the individual languages that the next several chapters are devoted.

It would not be profitable to speculate on the precise function of the original forms which were ultimately integrated into the system as middles, perfects, or thematic actives. The later functional meanings of the middle and the perfect may be defined by opposition, middle : active (internal : external), perfect : present(-aorist) (state : action), insofar as they represent inflexional rather than derivational categories; but to what degree this reflects the meaning of the antecedent derivational category is uncertain.

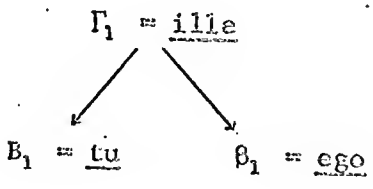
The very possibility of creating a paradigm on the basis of the 3 sg. by the suffixation of the elements -o, -to for the

remaining persons proves that these elements and their associated person-marking function must have been already pre-existent in the system. But the position they may have occupied in the structure of the verb at such an ancient period is not accessible by the normal techniques of reconstruction or comparison. Here it is probable that the only hypotheses of any validity will be dictated by purely typological considerations.

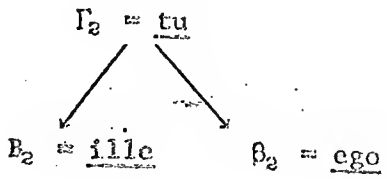
IX. Greek

§1. It is an observable fact that in a number of inflected languages the 2 sg. and 3 sg. may share a common form opposed to that of the 1 sg.: OCS 1 sg. nesǫ 2, 3 sg. nese, Hitt. 1 sg. tarnaḫḫun 2, 3 sg. tarnaš are well-known examples. This fact, discussed for example by V. N. Toporov, VSJ 1961. 5.68 (with references), may be best accounted for in terms of a model of the relations of person in the verb elaborated by Kuryłowicz in Infl. Cat. 148-9 and 240-1. Within this model we may contrast the functional alignment of the persons in the representational plane (or plan délocutoire) with that of the appellative plane, the imperative; Γ = neutral or zero-member, B = negative member, β = positive member:

representational plane

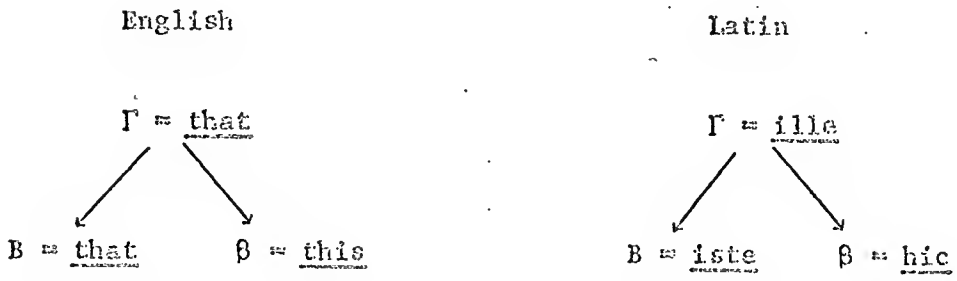


appellative plane



Kuryłowicz has emphasized in this model in general the close relation between the neutral member (Γ) and the negative member

(B) as against the positive member (β). This is especially clear in the system of demonstrative pronouns, where English and many other languages have the same form for B and Γ as against β, whereas for example Latin, Spanish, and Armenian have a tripartite system:



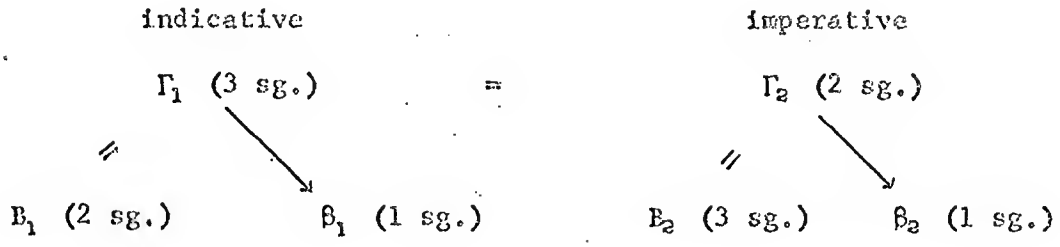
In the verb, the 2nd person is on the representational plane a special case of the 3rd person, the basic form of the paradigm, and may be formally identical with it; OCS nese : nĕsz, (B = Γ): β, is thus exactly parallel to English that : this. In the imperative the basic form of the paradigm is the 2nd person; the 3rd person is a special case of the 2nd, which may likewise be formally identical with it.

Following the work of Benveniste cited in ch. III §2 above, which forms the foundation of Kuryłowicz's model, we can define the 3rd person on the representational plane as the zero-person or non-person. This zero-function is frequently correlated, in a variety of languages, with zero-form, i.e., a desinence zero. In those cases where we have formal identity B = Γ in the verb, as defined

above, the 2nd person will show a zero-ending like the 3rd person: this is the case of OCS 2, 3. sg. nese.

Now it has long been known, and emphasized for example by Meillet, that there is a general tendency for the 2 sg. imperative to be characterized by a zero-ending as well, in conformity with its position as the zero-person or neutral member of the imperative paradigm. Again in the case of a formal identity B = Γ, the 3rd person of the imperative would likewise show the same zero-ending.

Where the stem of the imperative coincides with a stem on the representational plane, a quite typical situation, we may have a maximal formal identity of the following configuration, where a bipartite system with B = Γ prevails in both indicative and imperative:



Here $B_1 = \Gamma_1 = B_2 = \Gamma_2$, all consisting of stem + zero ending. Such situations are relatively rare; more frequent is to find older forms common to both indicative and imperative preserved in the imperative function, after having been renewed in the indicative. Cf. ch. II §9, ch. III §5 above. The best known such case is the

2 pl. ipv. in *-te (Lat. -te, Skt. -ta) beside the newer and independently innovated present indicatives Lat. -tis, Skt. -tha. A further renewal consists of the secondary differentiation of B_1 and Γ_1 (indicative) as against the more ancient identity $B_2 = \Gamma_2$ preserved in the imperative. Such a pattern, as we shall see, underlies the Greek thematic conjugation, and to a large extent that of Balto-Slavic and Celtic as well.

On the other hand where a tripartite system with $B \neq \Gamma$ in either or both indicative and imperative exists from the earliest times, we may have an identity $\Gamma_1 = \Gamma_2$, i.e. 3 sg. ind. = 2 sg. ipv. Such a situation is directly attested in Hittite in the thematic conjugations, and indirectly in Tocharian.

In still other cases Γ_1 may be distinct from Γ_2, such that $B_1 \neq \Gamma_1 \neq B_2 \neq \Gamma_2$. Here it is usually possible to state that Γ_2 (2 sg. ipv.) preserves the old form earlier common to Γ_1 (3 sg. ind.) as well, and that the new Γ_1 represents an innovation. This is finally the situation of the thematic conjugation in Indo-Iranian and Italic.

Such considerations immeasurably aid in the task of internal reconstruction, and permit us to grasp the underlying similarities and structural relations among such apparently disparate paradigms as the thematic presents of Hittite, Tocharian, Greek, and Indo-Iranian.

§2. The thematic paradigms with which we have been concerned thus far have been uniquely of the tripartite type, with $B \neq \Gamma$; the zero-ending has been confined to Γ_1 or Γ_2. Thus, in the indicative, the paradigm of the verb 'to lead, go', *age- (*$\underline{\text{o}}_2$oge-) given in ch. VIII §7 above may be displayed as

A) ind. ipv.

Γ_1 = *age Γ_2 = *age

B_1 = *age-t$\underline{\text{o}}$ β_1 = *ago-$\underline{\text{o}}$

concretely, Hittite

neya neya [-hhut]

neya-tta neya-hha.

The forms proper to B_2 and β_2 are omitted as not relevant to the discussion here. Hitt. -hu- and -t(i) are particles, cf. Hitt. e-hu 'come' and Skt. -dhi respectively, and thus originally not part of the desinence proper, which is zero.

The structural considerations which we have reviewed make it necessary for us also to recognize a bipartite paradigm with $B = \Gamma$; for the same stem *age- this would have the shape

B) ind. ipv.

In the more canonical fashion of displaying a paradigm, A) and B) may be simply combined as

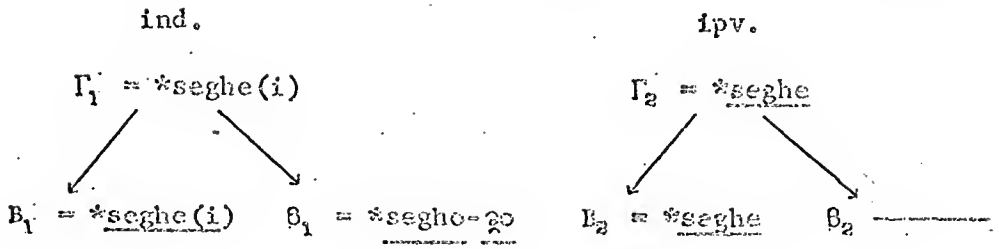
*ago-ḫo
*age(-tḫo)
*age,

where the parentheses indicate that the overt desinence of the 2 sg. is an optional element.

§3. It is the second paradigm (B) which represents the pattern inherited by the Greek thematic verb. Let us begin with the imperative, which on internal grounds is likely to preserve the more archaic forms. The 2 sg. ipv. is in -ε, e.g. ἔχε < *seghe. Yet beside this form we have also a residual but identical 3 sg. ipv. ἔχε *seghe, in Cratinus 144 Kock σεγὰν νῦν ὅπως ἔχε σεγόν and elsewhere, as discussed with characteristic insight by Wackernagel, Vorl. I 106 (and cf. 85). Finally the imperative type ἐχέτω

*seghe-tod must on the basis of its implementation in Greek, Latin, and Indic have been equally proper to both 2nd and 3rd person, thus $B_2 = \Gamma_2$, as recognized by Meillet, Introd.[8] 236 and Schwyzer Gr. Gr. I 801 ff.

In the present indicative the observable suffixation of -i to sg. -m -s -t to form 'primary' endings make it the most simple hypothesis that the Gk. 3 sg. -ei represents an earlier 3 sg. indicative ending -e (i.e. thematic stem plus zero-ending) suffixed by the same particle -i. In view of the identity $B_2 = \Gamma_2$ in the imperative, it is indicated to assume likewise an identity $B_1 = \Gamma_1$ in the indicative; thus:



A 1 sg. ipv. is lacking; cf. especially the remarks of Benveniste, Hitt. et i.-eur. 19.

The effect of the generalization of the affix -i in the present indicative is to differentiate $B_1 = \Gamma_1$ from $B_2 = \Gamma_2$. That this is a secondary development is indicated by two isolated Greek imperative forms which appear to show the same particle: the Old Attic aorist imperative πθει in the formula χαιρε και πθει frequent

in vase inscriptions (Kretschmer, Griech. Vaseninschr. 195), and the Doric interjection ἄγϲει = Hom. ἄγρει (Anecd. Oxon. 1.71). These forms are so analysed by Brugmann-Thumb, Gr. Gr.[4] 395, 398n., though Schwyzer, Gr. Gr. 1.804 with n.2 explains them (unconvincingly) as πϲε + ει, ipv. of εἶμι. The formulaic character of χαῖρε καὶ πϲει is supported by χαῖρε καὶ πῶ Alcaeus 105 a Diehl; it probably conserves a genuine archaism.

Thus the differentiation of indicative from imperative is accomplished by the former's adopting the obligatory suffixation of a particle originally optional with either. It is noteworthy that the -i is suffixed to B_1 and Γ_1 but not to β_1 where $B_1 = \Gamma_1$, and thus serves as an accessory mark of that identity; we may contrast the languages with tripartite paradigms, where $B_1 \neq \Gamma_1$, where the suffixation of -i, if it takes place at all, takes place with all three persons, as in the Hittite hi-conjugation or the Latin perfect.

The final development of the Greek indicative paradigm, and one which is probably quite recent in Greek prehistory, is the differentiation of B_1 and Γ_1 into -ϲι and -ϲει, by the suffixation of the -s characteristic of B_1 in numerous other paradigms in the language. The proportion is (ἔ)φερε : (ἔ)ωϲρες = φέρει : φέρεις, cf. Kuryłowicz, Infl. Cat. 156. One may compare also the spread of 2 sg. -ας in other paradigms, and especially the creation of

2 sg. τέθῃς etc., which must be posterior to the loss of intervocalic -s- (: dadhāsi). The suffixation of -s to -σι to clarify the 2 sg. function of the form is basically parallel to the suffixation of -t to the Latin perfect ending -ei, as in OLat. ēmīt, fuveit, posedeit to clarify its 3 sg. function. This explanation of Gk. -σις, already quite ancient in Indo-European studies, is in my opinion wholly preferable to any of the attempts, traditional and quite recent, to derive it from an *-esi; the morphological context which would justify the postulation of the latter form is simply not present in the Greek verb.

Internal reconstruction of the singular of the Greek thematic paradigm, then, leads us to posit the following historical sequence:

*segho-ǫ	>	*seghō	>	*seghō	>	ἔχω
*seghe		*seghe		*seghei		ἔχεις
*seghe		*seghe		*seghei		ἔχει

The relative 'weight' of the desinences -ω -εις -ει is isomorphic to that of the stage -ō -ei -e which we find both in Celtic and in Slavic (v. infra). It is not unlikely that Greek as well went through such a stage, with the optional particle -i generalized in the 2 sg, thereby replacing zero with an overt ending in this person, in conformity to the pattern of other paradigms. The third stage in the postulate sequence above would then be replaced by

*seghō

*seghei

*seghe

(or *sekhō, *ḫekhō, etc.). The archaic 2 sg. imperatives in -ες, and the 3 sg. -ε in the type ἀρχέ-κακος, may well reflect precisely such a stage.

It should be pointed out that there is a certain measure of truth in the identification by Bixxé, Gr. -ar. Spr. 10-11, of the Greek ending -ες of φέρες with the Indic ending -e of sáye (cf. the implied criticism by Thumb-Hauschild, 1.2.207 n. 251 but the approbation of Adrados, Verbo 623). Both are in effect composed of the same elements, namely the thematic vowel -e/o- and the deictic particle -i. But they belong to different systems in their respective traditions, and in the last analysis are independent but parallel developments according to the processes sketched above. Even by comparing rather the thematic -e of Ved. stáve the equation is scarcely a direct one; paradoxically to the -e of thematic stáve the true correspondent is the *-oi underlying the 3 sg. -τι of Greek athematic στεῦτος. The difference in vocalism finally precludes the direct identification of the two endings: Gr. -ες continues *-e(i) directly, whereas Indic -e goes back to the apophonic variant *-o(i), as is proved by Hitt. 3 sg. mid. -a, as well as by the renewal *-e(i) → *-to(i), Cypr. -τοι.

§4. The active plural forms of the first and second persons are the most constant of all the desinences of the Greek verb. They are identical in primary, secondary, and perfect tenses: West Greek (-o)-μες, elsewhere (-o)-μεν, all dialects (-e)-τε. The nucleus common to the majority of Indo-European languages is *-me/o, *-te. In all likelihood the observable variants with further suffixation are all posterior to the period of Indo-European community, and in particular it should be noted that an opposition between 'primary' and 'secondary' endings in these persons was never achieved; cf. the evidence of Greek, Celtic, Balto-Slavic, and Tocharian.

The 3 pl. is the only person to show an unequivocal opposition between primary and secondary endings which may be compared to that of cognate languages: (-e/o)-ντι and its dialectal representations beside (-e/o)-ν < *-nt. (The presence of the final -t in Common Greek is proved by the shortening -ēnt > -ent > -εν in the aorist passive, by the action of Osthoff's law.) We may assume that the suffixation of -i to the basic ending -(e/o)nt was contemporaneous with its suffixation in 2 and 3 sg. *-si.

No Indo-European language preserves in a thematic active paradigm the ending *-r(o), which on the evidence of such archaic forms as Ved. duhre, ā́duhra[ṃ] must have been proper to the 3 pl. function in the original paradigm. All have generalized the 3 pl. ending *-e/ondh(i), which as shown in ch. II was the ending proper

to the athematic -m(i) -s(i) -t(i) paradigm.

§3. Where where the thematic (-o-yo > -ō) paradigm in Greek was opposed to an athematic (-mi) verb, it was restructured in a new modal (subjunctive) function, by opposition to the athematic indicative: *ἐσ-ō - *ἐσ-mi, Hom. ἔω - εἰμί. This probably represents the first introduction of a separate inflexional category of subjunctive into the language, the same syntactic functions having been expressed at an earlier period by the indicative alone (cf. the Indo-Iranian injunctive), or by the indicative with modal particles, as in Hittite. The subjunctive of athematic verbs in turn served as model for the creation of the subjunctive of thematic verbs, by contraction of the stem vowel -e/o- with the thematic endings to produce the sign -ē/ō.

It has been supposed, on purely comparative grounds, that the Greek subjunctive of athematic verbs showed at the earliest period a paradigm *-ō *-eis *-ei like Indic; cf. Schwyzer, Gr. Gr. 1.661, 791. The corresponding thematic subjunctive would then with contraction be *-ō *-ēis *-ēi, or with primary ending *-ēsi *-ēti. The only evidence for this is the isolated dialectal 3 sg. -ῃ, -ᾳ, and the Homeric -ῃσι, both of which are ambiguous, as noted above, ch. IV §5.

It is evident that such an interpretation of the long vowel subjunctive is dependent upon the correctness of the analysis of the short vowel subjunctive on which it is based. But outside the 1 sg., where we have a few clear forms like Rom. ἐ̄ω = Lat. erō̆ = Gāth. aŋhā̆ = OIr. b-ē̆o, no subjunctive of an athematic verb in Greek shows any evidence for the supposed endings *-ē̆s *-ē̆t. (Cyren. πεκτοῆς is to be excluded as an ē- aorist subjunctive [see below], and more importantly the basic member of its paradigm, the 3 sg., is -σει not *-σε.) And a primary *-ē̆ti must presuppose a short vowel *-eti, for which there is not one shred of evidence anywhere in Greek.

So for example 2.3 sg. *ḗsēs *ḗsēt should yield *(h)ḗs *(h)ā̆, with various contraction products in the dialects. It might of course be speculated that such forms were remade to the Attic-Ionic type ἦς ἦ ; but it is far more likely that an *ḗsēs *ḗsēt never existed at any period in Greek prehistory, and that the Greek short vowel subjunctive simply had the endings of the thematic indicative, thus -ō̆ -ei(s) -ei, whence long-vowel -ō̄ -ē̆i(s) -ē̆i.

In this case the isolated instances of -ῃ -ᾰ̈ if genuine at all would not be archaisms but innovations, built on the secondary 3 sg. in -ε; cf. Cyren. -σες, probably to be explained like the sporadic forms σώρισδες, ἀμελγες (Theocr.), ἔρπες (Hsch.), on which see Meiller-Vendryes, Traité² 322. The Homeric type ἀθλεύῃσι would

be an analogical cumulation of endings, -ῃ + σι just like ἴδω + μι, as assumed by Meillet-Vendryes, Traité² 324.

From the work of Renou discussed in ch. IV §9 we know that both the Indo-Iranian thematic indicative and the short a-subjunctive represent a differentiation of a single unitary category of 'eventuel'; the paradigms of both are at the outset identical, I-Ir. -ā -as -at. We would expect a priori that the same should be true of Greek, and thus that if the thematic indicative shows a paradigm -ō -ei(s) -ei, the short vowel subjunctive should initially have shown the same.

This view is directly supported by the 3 sg. s-aorist subjunctives in -σει, which are attested in Ionic and Doric (ch. IV §3 above), and probably to be inferred for Lesbian from the 3 pl. -σοισι < -σόνσι. It is indirectly supported by the metrical evidence of the Homeric poems, in which the short-vowel subjunctive is preserved only where for metrical reasons it could not be altered to the productive long-vowel type (Chantraine, Gr. hom. I.474). For -ειs -ει and -ῃs -ῃ are prosodically equivalent, hence the substitution of the latter for the former is readily understandable; -εs -ε and -ῃs -ῃ are not necessarily so equivalent, and the same substitution would not be so easily explained.

It is clear that the subjunctive of athematic verbs has undergone considerable refashioning in Greek, due in large part to the replacement of short-vowel by long-vowel forms. If in Herodotus we

have a basic ἐών ἦς ἦ (Chantraine, Gr. hom. 1.2:6), it is perfectly possible that the original paradigm was *eső *esei(s) *esti, which would be after the loss of -s- and vowel contraction particularly liable to analogical transformation. The replacement of short vowel by long vowel subjunctive in the Greek athematic verb is exactly paralleled in Iranian, where for example we have OPers. ahatiy Pahl. ahtēd but Av. ahāiti. The latter may indeed be 'equated' with Hom. ἔῃ, in that both are parallel but independent innovations resulting from the same initial conditions.

It is in the last analysis only the 1 sg. of the type Hom. ἐών which can be accorded any weight as direct comparative evidence in the Greek subjunctive. That the short-vowel subjunctive was once more widespread is clear from the metrical evidence of the Homeric poems, as noted above. On the other hand its point of greatest occurrence is in the sigmatic aorist, precisely a recent category, where it is in any case similar both in form and function to the sigmatic future (Chantraine, loc. cit.).

We noted in ch. V §10 above that the thematic secondary suffix *-se/o- may be postulated on the comparison of Hitt. -ḫḫa- (forming ḫi- verbs). In this case it would be by origin a derivational category rather than a inflectional one, and the integration of *-se/o- as subjunctive of the s-aorist would be only one possibility exploited in the Greek verb, the other being as the future. Cf. from

the root *legh- the athematic λέκτο and subjunctive/future λέξεται, the latter in its subjunctive function only secondarily referred to the innovated aorist indicative ἐλέξατο. The derivational rather than inflexional character of the suffix *-se/o- is well preserved in the isolated Latin desiderative *viso* < *yeid-se/o-.

If in such an instance it is possible to suggest the relatively late creation of a modal opposition indicative : subjunctive in the s-aorist, then it is likewise possible to suppose that the general creation of a modal opposition indicative : subjunctive is basically an independent development within Common Greek itself. Just as the s-aorist subjunctive is by origin a derivational category incorporated into the paradigm as an inflexional category, so the short-vowel subjunctive of athematic verbs in Greek was originally a derivational category of thematic *éventuel*, but one in part incorporated into the paradigm to express the inflexional category of subjunctive. From the athematic verb the modal formation spread to the thematic conjugation, itself a development from the same *éventuel*.

§6. In chapters VI §13 and VII §1 above we saw how the thematic paradigm was renewed by the suffixation of *-i* to the original 3 sg. *-e* (where the desinence proper is *zero*), in order to clarify its third person function: the development is the same as historical

Indic *áduha* → *áduhat*, *vā́da* → *ā́dat*. This 3 sg. in *-e-t* so created then formed the basis of a new paradigm built on the commutability *-m*, *-s* ~ *-t*, whence *-o-m* *-o-s* *-e-t*: the development is again the same as the creation of Indic *ā́da-m ā́da-s* from *ā́da-t*.

The result of this process was to create the possibility of opposing paradigms, in the singular:

-o-go	*-o-m*
-e	*-e-s*
-e	*-e-t*

(The first paradigm is given in its simplest form.) In the plural, the same basic endings served for both paradigms:

-me-
-te
-ont.

In the 1 and 2 pl. this situation was preserved intact in Classical Greek; in the 3 pl. the fixation of the particle *-i* in the primary forms led to the opposition

-ont-i	*-ont*

preserved almost as such in Doric -οντι, -ον.

In one dialect area, comprising Greek, Indo-Iranian, Armenian, and Balto-Slavic, the second (-o-ço-m, etc.) paradigm was utilized to furnish a narrative tense to the first and basic (-o-ço > -ō) paradigm. In (Balto-)Slavic they were opposed as present vs. aorist, the latter both of perfective and imperfective aspect depending on the verb, as attested in OCS (Hunt, OCSGr.[2] 136).

In Greek they were opposed as both present vs. imperfect (Hom. λείπει ~ λεῖπε) and present vs. aorist (λείπει : λίπε) depending on the aspectual value of the stem. Along with other dialects, Greek further reinforced the narrative tense function by the optional prefixation of the augment e-, originally a sentence connective particle to which the verb was attached in enclisis. Cf. Celtica 6.15 (1963), and compare the quite parallel Hebrew vau consecutivum.

Greek, Balto-Slavic, Indo-Iranian, and Armenian are the only dialects in which an opposition between a 'primary' thematic paradigm in -ço -e(i) -e(i) and a 'secondary' thematic paradigm in -om -es -et was created and maintained; alone in this dialect area do we have the development of the latter paradigm, classically termed the 'Indo-European' thematic imperfect and aorist. There are, however, traces of the same development in Italic, as will

appear subsequantly. The detailed exposition of the constitution of the paradigms of the languages other than Greek will be found in the chapters devoted to each.

§7. We may now turn our attention to the formation of the middle in Greek, both athematic and thematic. We have seen that the -ω -σι(ς) -σι paradigm corresponds formally to the thematic middle in Hittite. Its integration into the system as an active, in Greek and the other Indo-European languages, is a consequence of two facts: first, its passage from a derivational to an inflexional category, equivalent to the earlier -m -s -t paradigm; and second, its opposition to a new middle voice.

The presence of such archaic media tantum in Greek as κεῖμαι, ἧμαι, στεῖται, with their cognates, shows that the athematic middle (type IIb of the preceding chapter, §13) must have been inherited into Greek from Indo-European. On the other hand an immediately apparent characteristic of the Greek thematic middle is its strict structure of thematic vowel + athematic middle endings. This transparency of formation, contrasting with the thematic active, is prima facie evidence for the lateness of its creation; though doubtless having its beginnings in late Indo-European times, the creation of a thematic middle opposed to a thematic active is a

dialectal development of Greek, and of all the other Indo-European languages where it appears. It is thus necessary to assume that the Greek paradigm acquired its characteristic shape in the athematic type.

§8. In the earliest historical Greek, as ascertainable from the combined evidence of Mycenean, Arcado-Cypriote, and isolated Homeric forms, we have a paradigm of the following shape in primary and secondary tenses:

κει-μαι	κει-μεθα	κει-μην	κει-μεθα
κει-[σ]-αι	κει-σθε	κει-[σ]ο	κει-σθε
κει-ται	κε[ι]-νται	κει-το	κε[ι]-ντο

In the 3 pl. a form -ατο(ι) < ?-ητο(ι) must also be reckoned with, an allomorph of the ending dialectally conditioned by the columnal accent on the root, as discussed in ch. II §15. But Hom. κέονται is attested (3x) and always in the cadence of the verse, suggesting conservation of an archaism.

Both 2 sg. κεαι and 3 sg. κει-ται with ε-vocalism are attested in Arcado-Cypriote, and the ending is confirmed by such Mycenean forms as 3 sg. pres. e-u-ke-te = *eukhetoi*. Cf. Πυθέαι,

Emerita 20.8-31 (1952).

The 1 and 2 pl. -μεθα and -σθε do not distinguish primary and secondary forms, just as the corresponding actives -μεν (-μες) -τε do not. In these two persons of the middle none of the Indo-European languages agree entirely. The absence of special endings in these persons both in the perfect and the Hittite hi-conjugation indicates clearly that they had no separate form in Indo-European; the separate forms developed in each language (including Hitt. -weni, -ttuma) are all a consequence of the transition of the middle from an inflexional to a derivational category, and the necessity of filling out the paradigm with opposing active and middle forms for each person.

In Greek, the 1 pl. -μεθα (beside -μεσθα) is clearly built on the active -με(ν), -μες, by the addition of a particle *-dha; the ending recalls Indo-Iranian *-ma-dhi, without being identical with it.

The 2 pl. -σθε similarly recalls Indo-Iranian prim. *-dhvai, sec. *-dhvam, in which -ai is after 3 sg. *-tai etc., and -am doubtless a particle. The -σ- of the Greek ending could have been generalized from roots in final dental; compare the 2 sg. εἶσθα, and perhaps ἧσθα, whence εἶσθι, ἔρρησθα etc., and an ending from *-ttho which was synchronically -σθα. The form ἧσθα is an early analogical creation modeled on the perfect, not an original perfect

as sometimes assumed; cf. Lehmann, Morph. Meuer. 30, who shows that the root *es- never had a perfect. Hittite -ttum₂, Luv. -tuwa(ri), presupposing /-tum₂/, /-tuw₂/, on the other hand can be compared with Indo-Iranian *-dhw-, Gk. -θ(σ)- (?), only at the price of an ad hoc explanation of -m₂/-w₂, and the assumption of alternates *-dhw- and *-tw- (like nominal *dhro- ~ *-tro-), which introduces more complications than it explains. The Hittite ending is best left out of the comparison. The relation of the 2 pl. middle to the corresponding active *-te (earlier *-e) is in any case wholly obscure.

The inherited paradigm for the remaining persons had the shape

-ḫo(i)	whence pre-Greek	-a(i)
-tḫo(i)		-tha(i)
-o(i) -onto(i)		-o(i) -onto(i).

At the same time beginning in Indo-European but probably continuing in dialectal Greek (cf. ch. V §21) there was the tendency to the replacement -o(i) ~ -to(i) in the 3 sg., as documented in Indo-Iranian and Hittite, and explained above in ch. III §3.

§9. The nascent inflexional relation to the -m -s -t paradigm, appearing first in the 3 sg. (active -t : middle -to = -t + o) led to the elimination of the old 2 sg. by a new form *-so, created by the proportion -t : -to = -s : -so. This development is common to Greek (-σαι, -σο), Iranian (-θa, -ϑa and their reflexes), Indic in the primary -se (but not secondary -thās, which shows the older form in remodeled guise), Germanic (Goth. them. -a-za, remodeled), and Italic (Lat. athem. -re, -ris in ĭĕ-ris, them. -ere, -eris). Cf. Kuryłowicz, Infl. Cat. 59. The resultant pre-Greek paradigm was

-a(i)

-so(i)

-to(i) -ento(i)

Such a paradigm is common to both Greek and Iranian, though both may well have arrived at it independently. Greek went further, however, in the assimilation of the 1 sg. to the active ending -m(i), inserting an -s- before the ending proper, whence the historical primary form -μαι. Ultimately in Greek, after the formation of the dialects, we find this final element generalized through the present (primary) paradigm, hence -σαι, -ται, -νται outside Ahkan. Kuryłowicz, loc. cit., has called attention to

the parallel spread of the final -ai from the 1 sg. to the other persons (-sai -tai replacing older -se -te) in the Vedic subjunctive middle; this took place largely in historical times, as is clear from Whitney §561. Hence we may discount the objection raised by Cowgill in Ann. IE Ling. 81 n. 14.

In the secondary paradigm the forms outside the 1 sg. are clear, and ancient. But the ending -μῆν is without parallel in any Indo-European language. It is clear that it contains the old ending -e augmented by the insertion of -m-, whence *-ma. The full form -μῆν must go back to an old contraction of *-ma with a particle or other element beginning with a vowel and ending in a nasal. One thinks of the *-om of the e-aorist imperative -σ-ον, Indo-Iranian 2 pl. mid. -dhvam, and ipv. 3 p. mid. -(t)ām (on which see ch. VI §6), if a prehistoric contraction -a + o- > -ā is legitimate to assume. Since the athematic -μῆν is the predecessor of the thematic -ο-μῆν, it is scarcely justified to derive the -ῆν of -ωμῆν from a contraction of the thematic vowel-o- and the ending -a, with Kuryłowicz, Infl. Cat. 60, the more so since the -ν then requires a separate explanation. The suffixation of a particle to the 1 sg. alone can be paralleled by the optional -mi of the 1 sg. subjunctive in Indic and Iranian, as well as the -u of Goth. 1 sg. opt. -au. It is noteworthy that the secondary 1 sg. athematic middle is likewise a locus of innovation in Indo-Iranian, with its ending -i, and

in Gothic, with 1 sg. -a-da repeating the 3 sg. form. Cf. Infl. Cat. 59-60.

§10. Once constituted as an inflexional category of middle voice opposed to the active in the athematic type, the same paradigm was extended to the thematic type, by the direct suffixation of the athematic endings to the thematic stem vowel. The distribution of the variants e and o of the latter imitated that of the thematic imperfect and aorist. We thus obtain the succession

-μαι	-μᾱν		-μι	-ν
-σοι	-σο		-σι	-s
-τοι	-το	opposed to	-τι	-[τ]

whence the extension to

-ο-μαι	-ο-μᾱν		-ω	-ο-ν
-ε[σ]οι	-ε[σ]ο		-εις	-ε-s
-ε-τοι	-ε-το	opposed to	-ει	-ε-[τ].

It remains entirely possible that the inflexional opposition active : middle was first developed in the thematic conjugation,

and was from there diffused into the athematic type. Cf. the situation in Indic described in the following chapter, §5. In this case the integration of the athematic middle paradigm as an inflexional rather than derivational category would be posterior to the development of an inflexional opposition thematic active : thematic middle. But the formal influence of the athematic middle paradigm on the constitution of the nascent thematic middle paradigm is no wise affected thereby.

§11. The final development is the extension of the athematic middle endings to the perfect, where though furnishing a formal opposition between active and passive, they virtually merged in semantic value with the old stative-intransitive 'active' perfect, and indeed partially supplanted it; the perfect middle in Homer is more frequent than the perfect active (Chantraine, Gr. hom. 431). The new perfect middle offered the convenience of easily forming a pluperfect, with the normal secondary middle endings, whereas the pluperfect active was not so clearly marked. (On the latter see especially Chantraine, Gr. hom. 437-8; the explanation offered by Kuryłowicz, Infl. Cat. 91, is far from certain.) Thus the perfect stems with primary and secondary (pluperfect) endings

-μαι	-μεθα		-α	—	(-σω)
-σοι	-σθο		-ας	—	
-τοι	-το	beside	-ε	-σι.	

A genuine opposition active : (medio-) passive is still relatively rare in Homer, cf. Chantraine 432. Still it is already attested in Mycenean, where we have the 3 sg. perfect passive epidedato = ἐπιδέδασται '[the wine] has been distributed' (PY Vn 20 = Documents 250). Note here also the old 3 sg. -τοι.

In at least one case in Greek the perfect and pluperfect middle probably go back directly to an old athematic (present) middle: the plupf. 3 sg. Hom. ἕστο = Hitt. pres. mid. weštа, and the perf. 3 sg. ἐπί-σται = Ved. pres. mid. vášte, preserved in the archaic language of an oracular formula in Hdt. 1.47 (Hom. 3 sg. εἶται is after 1 sg. εἶμαι < *ues-mai). Cf. Frisk, Gr. etym. Wb. s.v. ἕννυμι.

X. Indo-Iranian II.

§1. In the preceding chapter it was noted that Greek shared in a dialectal development, in an area including the preforms of Indo-Iranian, Armenian, and Balto-Slavic, of an opposition between the basic general present in 1 sg. *-o-ǫo and an associated narrative tense in 1 sg. -o-m. This primary narrative function of the tense in -o-m, to the extent that it corresponds to a present in -o-ǫo and shares the same stem, is clear in Vedic: it is the imperfect, ábhanam : bháxāmi. But the same paradigm an -o-m also tended to be formed on non-present stems of characteristic shape, doubtless beginning from *ǰid-o-m, and we thus have also a thematic aorist, as in Greek and Armenian. The thematic aorist was clearly an expanding category in Indic at the beginning of the historical period.

In Indo-Iranian it would appear that the contrast

-o-ǫo	-o-m
-e	-e-s
-e	-e-t

led to the complete elimination of the zero-ending forms, by their adoption of the final -s and -t of the second paradigm. The result was a partial merger of the paradigms:

-o-ṣo -o-m

-o-s

-e-t

This stage is textually attested in both the Indic and Iranian forms of the athematic subjunctive and thematic injunctive paradigms (both archaic categories): -ā -as -at and -am/-at respectively. In effect, before the fixation of the particle -i in 2 and 3 sg., such a paradigm means that in the indicative function, the 1 sg. -o-ṣo and -o-m (Indo-Iranian -ā and -am) were competing forms. Such a situation has left distinct traces in the texts, where for example there is no discernible grammatical contrast between the present indicative of prá vṛṣabhā́ya sustutím ī́rayāmi (RV 2.33.8) 'I send forth a song of praise to the bull' and the present injunctive of índrāya gírας prá ī́rayam (RV 10.89.4) 'I send forth songs of praise to Indra'.

But the polarization of the two paradigms into present and imperfect/aorist function led to the fixation of the hitherto optional particle -i to -e-s -e-t in the present function (the two ambiguous forms), whereas in the imperfect/aorist there was a tendency to the prefixation of the augment e-, developed in the function of narrative tense or tenses, and the particle -i was excluded. The result was the common Indo-Iranian system:

-ā (á- +) -am

-asi (á- +) -as

-ati (á- +) -at

The original faculty of -i of appearing also with imperfects or aorists is still attested in the Vedic athematic root aorist forms dā́ti, dhā́ti, sthā́ti (=OIr. táith-i 'est ei'), which function virtually as indicatives.

Where in Indo-Iranian the -o-a̯o paradigm was opposed to an athematic paradigm, it was incorporated as an inflexional category expressing the subjunctive mood, just as in Greek. In this function, there being no necessity to polarize the form vis-à-vis a secondary tense, the suffixation of the particle -i remained optional in the early attested stages of both Indic and Iranian.

In ch. IV §9 we noted, following Renou, BSL 33.15 (1932), that the archaic Vedic éventuel in -a- was originally independent of the categories of tense and aspect. In its nascent subjunctive function it came to be associated with both present and aorist, whence beside older karati with 'valeur mi-réelle, mi-modale' we get the formation of clearly modal kr̥ṇávat on the characterized stem of present kr̥ṇóti. Similarly subj. yunájat, etc. The subjunctive of thematic stems is built in the same fashion as in Greek, though independently, witness the different endings: stem naya- + -ā -as(i) -at(i), whence nayā̆(-ni) nayas(i) nayat(i).

In the 1 sg. already in Indo-Iranian times an optional particle -ni could be affixed, which ultimately was generalized. In the RV there is a certain tendency toward a repartition athem. -ā : them. -ā̆ni (Renou, op. cit., p. 11), cf. perhaps the collocation nír ayā and nír gamāni in RV 4.18.2a. But the Gathas have

both 1 sg. subj. ayenī (Y. 46.1) with -ni as against Ved. ayā and jimā (Y. 29.3) without -ni as against Ved. gamāni, which rather weakens the probative force of the RV passage.

§g. In one case in Indo-Iranian, the integration of the thematic forms as subjunctives to athematic roots is only partial: the monosyllabic roots in final long vowel. Here only the 1 sg. shows the thematic ending, and the 2 and 3 sg. subjunctives are either identical with the injunctive (i.e., the injunctive fulfills the subjunctive function) or show primary endings.

Thus in Vedic we find the 1 sg. subj. gā-ni to gā- 'go', which minus the particle -ni reflects *g^{w}-ō < *g^{w}(ə)-o-ḥo; but in the other persons of the singular subjunctive-injunctive gā́s gā́t < *g^{w}ā-s *g^{w}ā-t. Avestan has 1 sg. subj. xšṯā to stā 'stand', from *st-ō, beside Ved. 2, 3 sg. sthā́s, sthā́t sthāti. From Gāthic 1 sg. subj. mid. dā-nē we may infer an active *dā like xšṯā, from *d-ō or *dh-ō; the corresponding 2,3 sg. subjunctive forms are dāhī, dāitī, with full grade root and primary *-si, *-ti.

We have here a sort of "semi-thematic" subjunctive paradigm, of which there may be also traces elsewhere; we have already equated Gāth. dā(-nē) < *d(h)-ō with Lat. dō above (ch. VIII, §8), and Av. xstā < *st-ō may be similarly equated with Lat. stō. The constitution of the paradigms would probably be independent in each, witness the difference in root vocalism between Gāth. dāi-nī dāhī dāitī with full grade in the 2, 3 sg., and Lat.

dō dās dat, con-dō -dis -dit with zero-grade *d(h)s-si *d(h)s-ti. But the formations are basically parallel, and arise from parallel conditions. There is even a conceivable connection--in terms of parallel development--between this Indo-Iranian and Latin "semi-thematic" conjugation and the "semi-ḫi" conjugation of Hittite 1 sg. u-ḫḫi, 3 sg. auš-zi.

§3. It is likely that the same stages we have assumed for the prehistory of Indo-Iranian also underly the formation of the Armenian verb. But the history of the latter is greatly obscured by the usual loss of final syllables, the extensive reshaping of the inherited desinences (e.g., 2 sg. pres. -es) and the frequent development of innovated desinences of wholly obscure origin (e.g., 1 sg. aor. -i). In any case, however, the roster of relevant temporal and modal categories is basically the same as that of Indo-Iranian and Greek: thematic present indicative (acc < *ageti), imperfect/aorist (ac < *aget, egit < *e-uidet with augment), and thematic vowel subjunctive (aor. 1 sg. acic' < *ag-isḱ-ō).

§4. The history of the middle in Indo-Iranian is basically parallel to that of the same voice in Greek, discussed in the preceding chapter. That is to say the athematic middle formation is in large measure a derivational category inherited from Indo-

European times and tending to incorporation as an inflexional category, whereas the thematic middle is a more recent development basically built from the athematic middle by the insertion of the thematic vowel. The result is the creation of an opposition of voice as an inflexional category in the emergent thematic conjugation.

On the other hand there are notable differences from the Greek middle formation, not only in the form of the desinences themselves (which is a more secondary matter), but in their implementation in the constitution of the paradigm. The line of demarcation between athematic and thematic middle is not so neat in Indo-Iranian as it is in Greek, and this must be taken as an index of the greater archaism of the Indo-Iranian situation.

It was pointed out in ch. II §1 that in the root athematic class in the RV, the number of instances of attested oppositions between active and middle forms is extremely small: 3 pl. rihánti/rihaté 'lick' and forms of brū- 'say' are virtually the only examples found. The root verbs are either activa or media tantum, a situation whose antiquity is entirely borne out by Hittite. Only in the characterized athematic verbs, the reduplicated and nasal classes, do we begin to fine genuine oppositions, like dádhati/dhatté, kṛṇóti/kṛṇuté. This indicates that the passage of the athematic middle from derivational to inflexional category is still in progress at the beginning of our documentation. It is further possible that the inflexional apposition active : middle was first formed in the thematic conjugation, e.g., RV váhati/váhate,

ájati/ájate, bhájati/bhájate, yájati/yájate, and from there spread to the athematic conjugation, appearing earliest in the 'derived' (characterized) presents of the reduplicating and nasal classes. Cf. on Greek ch. IX §10.

§5. The middle endings themselves have the following shape in reconstructible Indo-Iranian:

	athematic		thematic	
primary	-ai		-ai	
	-sai		-esai	
	-(t)ai		-aiai, -ai	
	-madhai		-amadhai	
	-dhvai		-adhvai	
	-a(n)tai, -rai		-antai	
secondary	-i, opt. -a		-ai	
	Ind. -thās, Iran. -sa	Ind.	-athās, Iran. *-esa	
	-(t)a		-ata	
	-madhi		-amādhi	
	-dhvam		-adhvam	
	-a(n)ta, -ra		-anta	

The innovation of the 2 sg. -sai(i) has been discussed above,

ch. IX §9, in connection with Gk. -σο(ς). It is based on the proportion -t : -to = -s : -so, and is thus posterior both to the renewal -o → -to of the 3 sg. ending, and to the acquisition by the middle of the status of an inflexional category (which permits the direct opposition active -t : middle -to in the proportion). Whereas this innovation eliminated the older 2 sg. -tho entirely in Iranian, Indic preserved the latter (in partly renewed form) in the secondary ending -thās < -thā ^ as.

§6. In the 3 sg, the older ending -a(i) is still well attested in Vedic; -tai is a renewal of this ending, as discussed in ch. VI §12 above. Its creation is likewise posterior to the acquisition of the status of inflexional category by the middle, permitting the confrontation active -t (= inflexional zero) : middle -o whence the possibility of -t + o = zero + o.

The identity of thematic and athematic 3 sg. in the residual ending -ai is a notable archaism; it has been explained in ch. VII §17. The productive thematic ending -ata(i) is subsequent to the renewal -a(i) → -ta(i) in the athematic type. In part it may be viewed as representing thematic vowel a + the new ending -ta(i), and as such comparable with Gk. -e-to. But in some cases as we have seen in ch. VI §12, it must be regarded as the product of a direct renewal -a → -a + ta, i.e., with the suffixation of the new 3 sg. ending -tā onto the old 3 sg. ending -a. In this case it is comparable not with Gk. -eto but with Hittite

-a → -atta, i.e., *-o → *-e-to.

§7. The 1 and 2 pl. endings have already been discussed in the preceding chapter, §8. In the 3 pl. the ending -ra(i) is residual and clearly the most ancient. It is preserved most faithfully in the Indic optative, in the renewed form 3 pl. -ran < -ra + nt (the renewal from the active parallels 2 sg. -thās < tha + as); the optative likewise alone preserves the original 1 sg. secondary middle ending -a. For the variety of a-endings in Indic and Iranian see especially Leumann, Morph. Neuer, 4-40, who has convincingly demonstrated their internal diffusion.

The creation of the productive ending, full grade Indo-Iran. -ante, -anta, Indic and partially Iranian zero-grade athem. -ate, -ata < *-n̥to(i) has been described in ch. V §20, following Kuryłowicz. It is likely that the full grade vocalism *-ento(i) in both thematic and athematic conjugation preserves the more archaic form; the middle ending -ento(i) was created after the model of the athematic active ending -ent(i), which showed full grade form, as noted in ch. II. The ending *-n̥to(i) represents a dialectal reduction {-e/onto(i)} ~ -n̥to(i) conditioned by the predominant columnal accent on the root in the archaic media tantum like *ĕs-, *kei-, *u̯es-, cf. RV 3 pl vásate, śerate, ā́sate, āsata, as well as isolated middle forms with full-grade accented root like RV ajanatā, cf. aor. pass. jáni (v. infra).

Avestan shows both ąjhāire and ąjhenta; the latter may be simply a thematicized form. The 3 pl. ending -ata(i) is found in Gāth. mərəncaitē (Y. 31.1) and Av. aojaite = RV 3 pl. śhate; Gāth. vī-šyātā 'they distinguish' (Y. 30.6) has an obscure long vowel, and is conceivably a replacement (or error) for -antā; for other apparent cases of 3 pl. -ātā cf. Humbach 1.26. Bartholomae gives varatā as 3 pl. aor. in Y. 30.5, but the form is to be read as 3 sg. varətā; the metre requires a disyllable and the syntax a singular (cf. Humbach ad loc.).

The greater antiquity of the full ending -anta(i) over reduced -ata(i) is proved by its conservation in the archaic injunctive, both in Indic and Iranian. Particularly noteworthy is the contrast between Ved. inj. kránta and Indic. a-krata already noted in ch. II §15. The full ending agrees completely with that of the Gāth. inj. mā xšāntā 'nicht sollen sie die Macht übernehmen' (Y. 48.5); it is likewise assumed by the 3 pl. ipv. mid. xšāntąm (ibid.), which shows an older form than RV 3 pl. ipv. mid. īratām 'may they come' (3x; the unique RV attestation of a root athematic 3 pl. ipv. mid.). Ved. -atām here is after indicative 3 pl. īrate, with reduction in columnally accented root. Other RV 3 pl. injunctives with this ending are budhánta, yujanta, mṛṣanta; and the isolated imperfectus aminanta I 79.2 (minā́ti), adadanta VII 18.21 are probably secondarily augmented injunctive forms. Similarly ah(u)vanta, and especially áranta beside the very archaic 3 pl. forms ranre, ranta.

In view of the dialectal character of the Indo-Iranian

(and Greek) reduction *-onto(i) → *-nto(i), it is probable that Hittite 3 pl. forms like weššanta 'they dress', ēanta 'they sit' continue full grade *ues-onto, *ēs-onto, despite the phonological ambiguity of the desinence due to the merger of *on and *n in Hitt. an.

§8. It is in the 1 sg. that the forms present at first the most puzzling appearance. For the relation -ai : -i between primary and secondary ending in the athematic type is not parallel to, e.g., 3 sg. -tai : -ta; nor is the relation -ai : -ai between athematic and thematic primary types similar to -tai : -atai, whereas secondary -i : -ai (a + i) is like -ta : -ata (a + ta).

The inherited primary and secondary 1 sg. endings were *-ḫoi, *-ḫo, as attested in OHitt. -ḫe (later -ḫi), -ḫa respectively. The first is preserved intact in the Indo-Iranian athematic primary ending -ai, e.g. RV uv-é = Hitt. u-ḫḫi. The fundamental character of the Indo-Iranian athematic 1 sg. mid. pres. -ai < -ḫoi is shown not only by its indicative use, where we may note also forms from the archaic intensive (RV joguve), but also in the subjunctive. The Indo-Iranian ending -ai reflects the contraction of thematic vowel with the ending, -a + ai > -āi; cf. RV kṛṇávai, stávai, Gath. aojāi, Av. yazāi.

The secondary ending -a < *-ḫo is preserved in the Indo-Iranian optative ending -a, as in RV athem. 1 sg. íṣ-ī-y-a, mur-ī-y-a, them. huv-éy-a, sac-ey-a, Gāth. athem. dyā = dīyā (root dā-),

them. vāurayā (cf. Humbach ad Y. 28.5, 31.3). In all the other cases, athematic secondary, thematic primary and secondary, the ending of the 1 sg. middle is an innovation.

§9. In the athematic type the original endings 1 sg. -ǫ̂o(i) and 3 sg. *-o(i) merged phonetically into Indo-Iranian -a(i). The result was an identification of these two persons in the archaic paradigms of the athematic primary middle, and the optative (with secondary endings), before the renewal -a(i) → -ta(i) in the 3 sg. Thus

athem.	1 sg.	-ai	(RV íśe)	opt.	1 sg.	-a (RV íśīya)
	3 sg.	-ai	(RV íśe)		3 sg.	-a (AVS īśīya, RV duhīyát).

Cf. also RV 1 sg. joguve, 3 sg. jóguve in the archaic intensive.

This identity in the paradigm was further supported by the (etymologically related) perfect, with its identical 1 sg. -a, 3 sg. -a < *-ǫ̂o, *-e.

The original 3 sg. thematic primary middle ending was -ai, identical with the athematic 3 sg. -ai, and it is clearly indicated to derive the thematic primary middle 1 sg. -aĭ from the 3 sg., by an imitation of the identity of the two persons in the athematic paradigm:

athem.			them.		
1 sg.	-ai	(íśe)	1 sg.	-ai	(stave)
3 sg.	-ai	(íśe)	3 sg.	-ai	(stáve)

We may note that the same development took place at a later stage in Gothic, where the 1 sg. thematic mediopassive -ada repeats the 3 sg. -ada, based on the identity of the two persons in the strong and weak preterites and the perfecto-presents.

§10. The athematic 1 sg. secondary ending -i likewise repeats a 3 sg. form, based on the identification of the two persons in the paradigms above; in this case the 3 sg. form is the so-called aorist passive. A connection between the 3 sg. aorist passive and the 1 sg. secondary middle has been noted already by Whitney §843a; cf. Kuryłowicz, Infl. Cat. 59.

The Indo-Iranian aorist passive has been discussed in Celtic Verb 103, and above in ch. III §6. Though showing a simple zero-ending enlarged by the particle -i, it is basically an intransitive, middle form, secondarily relegated to the passive function in transitive verbs. As such, it is semantically virtually identical with the aorist middle; there is complete overlap in grammatical meaning between aor. pass. ajani in 1.74.3 úd agníṛ vṛtrahā́ ajani 'Agni des Vrtratöter, is erstanden' and aor. mid. ajanista in 10.17.6 prápathe pathā́m ajaniṣṭa pūṣā́ 'In der Ferne der Wege ist Pusan geboren.' The relegation to specifically passive function of this archaic formal category is comparable

to the same semantic development of the archaic 3 sg. in -ē in Vedic, which has been noted earlier, ch. VI §2.

The aorist passive is characterized by original full grade root, as in RV jáni, ájani, and all TeKT- roots (asarji, ábodhi, etc.), and Av. jaini, Gāth. mraoī = mravī, perhaps api-vaitī (on which see Humbach ad Y. 44.18). The vṛddhi of RV jāni, akāri, Gāth. srāvī, avāocī is a later (albeit Indo-Iranian) development. For this reason where we would have a middle with full grade root, i.e. precisely the archaic type of *steu-, *ues- etc., there would be both formal and functional overlap with the 'aorist passive'. Forms such as Gāth. mraoi, where the stem mrav- belongs to the present (mraoiti), or RV jáni without a productive corresponding root aorist active or middle paradigm (only ipv. jáni-svā VI 15.18 3 pl. ajanatā IV §5, cf. Szemerényi, Syncope 178, 181 n.1), show that the restriction to aorist aspect value of the formation must be secondary. Despite Szemerényi's arguments I doubt that these isolated forms, reflecting for the most part the bare root with 'particle' (*ĝene-sue, *ĝenə-i), are adequate to justify a complete Indo-European paradigm *(e-)ĝena-to etc., and from there to explain Gk. ἐγ(νετο.

Hence it is possible to suggest that on the model of the identity of 1 sg. and (fundamental) 3 sg. in such forms as RV

1 sg.	íśe	joguve	stave	pf. -a	opt. -ā
3 sg.	íśe	jóguve	stáve	-a	-a in dṛśīya[t],

the 3 sg. secondary middle (> 'aorist passive') -*i* served as the model for the creation of a new 1 sg. secondary middle -*i*. Hence

3 sg. *ajani* → 1 sg. *ajani*.

The latter form in its unique attestation in the RV, VIII 6.10 *ahám sū́rya iva ajani* 'ich wurde wie die Sonne (neu)gebozen' stands in a clear paradigmatic relation to 3 sg. *ajani* in *śd agníṛ vṛtrahā́ ajani* of I 74.3 cited above; only the person is different. It is only later, in accord with later Indic rules of vowel gradation in the middle forms, that full grade 1 sg. aor. mid. *ajani* is replaced by zero-grade *ájñi*, posterior to RV and AV times. Cf. Szemerényi, *Syncope* 178-9.

§11. Outside the *s*-aorist, which will be taken up presently, the 1 sg. middle secondary ending -*i* is quite rare in the RV, occurring only eight times to seven roots, of which four occurrences to three roots are found only in book X. Iranian shows only Gath. *aoǰī*. The full grade root is found not only in *ajani*, but in other instances as well.

Thus *namśi* '(may) I attain' is the only injunctive attested in this group of forms; the isolation of the root form *namś-* in the finite verb in Vedic guarantees its archaic character, which is confirmed by OIat. 3 sg. *nancitor* in the XII Tables

(Fest. 166.29), nancīscor. (The root form *nmś- is further found in RV nominal nṃsa-, svapna-nṃṣāna, but only in books I and X). The suffix alternation zero ~ -i̯e-/-i̯o- between Ved. nmś- and Lat. nanc-io- (fut. act. nanciam cited by Priscian from T. Gracchus) is perhaps comparable to that noted in ch. II §7. The a-vocalism is to be expected in Latin on the evidence of the parallel frangō, tangō, lambō, pandō, sanciō. In phonetic structure 1 sg. nmśi is parallel to 3 sg. aor. pass. śaṃsi.

In RV IV 55.56 devásya trātúr avṛi bhágasya 'ich habe mir die [Hilfe] des Gottes Schirmer, des Bhaga erwählt' the metre (tristubh) requires that we read full grade avari for 1 sg. aor. mid. avṛi, as noted both by Grassmann and Arnold, Ved. Metre 302. The full grade athematic *u̯el- is attested in Lat. uelle < *u̯el-se and Lith. pavelti; cf. also RV aor. vṛta, and the aor. pass. avāri from the homophonous root vṛ- 'cover'.

In the older portion of the RV the only attested 1 sg. secondary middle with the zero-grade root is ayuji V 46.1, contrasting in vocalism with aor. pass. ayoji. As such it is the first 'regular' form to be attested in the Indic tradition. One may note that ayuji is to the 3 pl. injunctive yujanta as avari (avṛi) above is to the 3 pl. injunctive varanta.

The remaining occurrences are formally regular, but confined to book X: akṛi (2x) ávṛṇi, which are formed by the association of 1 sg. -i with 3 sg. -ta like later avṛi after (a)vṛta replacing avari. The somewhat anomalous aśuśravi is given as pluperfect by Grassmann, but better taken as an aorist of the causative,

'je me rendis célèbre', with Renou, Valeur du passé 40. The athematic ending is unexpected; the form may be a nonce creation.

§12. It is only in the s-aorist that we find the 1 sg. secondary ending -i well represented in the RV. significantly both as augmented indicative and unaugmented injunctive. The TeKT- roots show zero-grade before -s-, all others showing full grade. The forms are adiksi, anūsi, ṓthaksi, abhutsi, avitsi, asṝkṣi, asṛksi, astosi; mamsi, sāksi, bhaksi(?), gāsi, yamsi, yaksi, vámsi, vṛksi. Iranian furnishes Gath. mīnghī (= mamsi), fraši, cāvīšī (read cōišī, cf. Humbach ad Y. 51.15); OPers. adanšiy; Av. rāhī, zāviši (probably graphic for a form in long vowel comparable to RV 3 pl. ahūsata).

If the explanation advanced above of the origin of the Indo-Iranian secondary 1 sg. mid. -i is correct, namely that the ending repeats the final of the (3 sg.) aorist passive with its structure root + i, then we should expect the s-aorist 1 sg. mid. -si likewise to repeat the final of a structure root + si. I suggest we have precisely such a model in the Vedic imperatives in -si, type yáksi.

§13. The latter class has now been thoroughly studied by G. Cardona, Lg. 41.1-18 (1965), who has shown conclusively that these forms belong with the sigmatic aorist system, thus

to be segmented -s-i, and are not 2 sg. root present with desinence -si. His views are in complete accord with the independent findings of J. Narten, Sigm. Aor. passim, and may be considered proved. The forms he gives as follows: mátsi, yáksi, váksi, dhákṣi, sakṣi, jési, nési, pársi, prā́si, rāsi, dársi, yámsi, māsi, kṣéṣi, vési, jósi, sátsi, śrúṣi, yótsi, hoṣi, cakṣi, nakṣi, ratsi. Iranian shows the unique Gāth. dōišī to dis- 'show'. The structural similarity to the s-aorist 1 sg. middle forms given above is apparent, and there are some identical forms: yakṣi, yamsi, darsi = OP (a)darsiy , rāsi = Av. rāhi. The root forms are basically the same; for the aberrant zero-grade s-aorist from TeRI- roots (adiksi) we should compare Narten's conclusion (80) that the s-aorist is unoriginal in roots of this structure.

In the case of the radical 1 sg. sec. mid. ending -i the adoption of the final -i of the aorist passive was based on the identity of 1 and 3 sg. in comparable and related paradigms, whereas in the sigmatic formation the type yáksi is a 2 sg. But the pattern may be maintained on the basis of the structural relations among the persons in the indicative as against the imperative, as discussed (following Kuryłowicz) in ch. IX §1. While the zero-person in the indicative is the 3 sg., in the imperative it is the 2 sg.; in terms of Kuryłowicz's model which we have used, this situation may be manifested in an identity between indic. 3 sg. (Γ_1) and imper. 2 sg. (Γ_2). In the radical formation the 3 sg. in -i (Γ_1) imposed itself on the 1 sg. (β_1), for the reasons given above:

Γ_1 (a)jani

β_1 (a)jani.

In the same way, utilizing the fuller model with both indicative (Γ_1) and imperative (Γ_2), we have

Γ_1 *yaksi = Γ_2 yáksi

β_1 yaksi

It may be argued that Γ_1 *yaksi has only a virtual existence; but we may note that RV stosi in X 22.4 has been interpreted as imperative (Γ_2), but is better taken with Oldenberg, Noten ad loc. as 3 sg. passive (Γ_1), the explanation favored by Cardona, o.c., p. 4. Cardona regards 3 sg. stosi as formed after 1 sg. (a)stosi; but it is more in accord with the observable pattern for the derivation to go the other way : Γ_1 stosi → β_1 (a)stosi like Γ_1 (a)jani → β_1 (a)jani.

In further support of the explanation here proposed of 1 sg. s-aor. mid. -si, after the model of the imperative in -si, may be adduced the fact that no 1 sg. middle forms of the is-aorist (or -sis-) are attested in the RV (as against 3 sg. forms from 14 roots). The discrepancy is explained by the fact that there are no set forms of the -si imperatives; no model *TaRisi existed.

In this view the Vedic imperative type in -si is essentially the sigmatic counterpart of the aorist passive in -i. The latter

shows the structure full grade root + i (letter with vṛddhi), the former the expanded structure full grade root + s + i : TeR-i ~ TeR-s-i cf. jáni ~ dársi. Formally the simplest hypothesis is to view the -i as the same element in each, i.e. the deictic particle. Each has no overt mark for person, and is functionally a zero-person; in the indicative (representational) system this means 3 sg., while in the imperative (appellative) system it is rather 2 sg.: $\Gamma_1 = \Gamma_2$.

We note finally that while RV josi is semantically a -si imperative (Γ_2), the root is *ĝeus- with final -s, and formally josi could equally well reflect a 3 sg. *ĝeus-i>jos-i (Γ_1) just like jan-i. Such TeRT- roots in final -s are the bridge between the types root + i and root + s + i.

From the comparative point of view the closest analogue to the Indo-Iranian imperative in -si, belonging to the sigmatic system as Cardona and Narten have shown, is the Greek sigmatic aorist imperative in -σ-ον, e.g. Hom. λέξον, δεῖξον, which likewise exhibits the structure full grade root + s + particle. Note that the -dhi imperative particle is not in use in the sigmatic system, either in Greek or Indo-Iranian (RV aviddhi is isolated).

In diathesis the active function of the Vedic imperatives in -si, as against the intransitive, mediopassive function of the aorist forms in -i, is secondary. The sigmatic aorist had its original locus in the middle voice, as shown in Celtic Verb §4, and the development of an active imperative in -s-i parallels that of an active indicative in (3 sg.) -s-t, as well as that

of an active thematic conjugation in most Indo-European languages outside Hittite. In any case, as Wackernagel pointed out in Vorl. I 122, the imperative was originally outside the diathesis active : middle, cf. Gk. παῦε, ἔγειρε, imperatives of παύομαι, ἐγείρομαι. Note that the very common formula in the metrical cadence yaksi devā́n (cf. Cardona, o.c. 10) may be related to the indicative middle in devā́ṁś ca...yájate VI 28.3; cf. also yájasva devā́n VII 42.3, dáivyam jánam yaksva I 45.10.

Appendix: The participle in *-ti̯ant-

In ch. VIII §17 I called attention to the archaic and isolated Gāthic participle stavas < *steu̯-at-s, which contrasts in formation with its Vedic functional equivalent stuvánt-.

In all three Gāthic passages where it is attested, stavas is nom. sg., agreeing with the poet, the ego of the hymn, and clearly active in sense: Y. 34.6 yaŋ̇hmnuscā ... stavaŋ̇ aŋ̇hēnī paitī 'damit ich preisend und verehrend wider vor euch trete'; 50.9 yaŋ̇hāiš paitī stavaŋ̇ aŋ̇hēnī 'mit Verehrungen werde ich preisend wieder vor euch treten'; 50.4 at vā yaŋ̇hā stavaŋ̇ 'Euch will ich preisend verehren' (Humbach). The passages are clearly related, and we must have to do with an archaic, formulaic expression.

Together with Gāth. stavas must be mentioned the curious RV form stavā́n, likewise occurring only in the nom. sg.; cf. most recently Renou, EVI 61.6 (1965), with references. It is found always in absolute verse-final position (an index of archaism), and in the same metrical context, forming the last two syllables of the irregular triṣṭubh cadence |--◡◡ ; the word preceding stavā́n always ends in a short vowel. In all three of its attestations, stavā́n agrees with the god (Indra) to whom the hymn is addressed, and whose exploits are being narrated. Doubtless correctly, following Sāyaṇa, Geldner translated the form as 'gepriesen'; it is thus passive, in contrast to the active Gāth. stavas.

The passages are the following: II 19.5 á devó rírah

mártyāya stávān 'Dieser Gott gab gepriesen [den Ārya] frei für den Sterblichen'; II 20.5 muṣṇán uṣásaṃ sū́ryeṇa stávān 'indem er die Usas' samt der Sonne raubte, er der Gepriesene'; VI 24.8 ná vīḷáve námate ná sthirā́ya ná ṛ́ṣvāya ná ṛ́ṣvadātaye dā́syujūtāya stávān 'Er weicht nicht dem Zähen noch dem Festen, nicht dem Übermächtigen, von den Dasyu's getriebenen, wenn er gepriesen wird.'

I cite the last passage in full to point out a good Vedic example of Behagel's Gesetz der wachsenden Glieder : ná v°/ ná sth°/ ná ṛ́° d°; cf. especially Wackernagel, Kl. Schr. I 193-4 on 'Indogermanische Dichtersprache,' as well as Leumann-Hofmann-Szantyr II 722.

A possible fourth instance is III 18.4a úc chocíṣā sahasas putra stutáḥ '(Flamme) auf mit deiner Glut, du Sohn der Kraft, besungen', where Arnold, Vedic metre 144 suggests that stutáḥ has been altered from stávān. Metrically this is plausible, since stutáḥ occupies the same final position in the same cadence |-- ⏑ ⏑ , likewise preceded by a word-final short vowel. Note also that of 24 examples of the nom. sg. stutáḥ in the RV the only other example at verse-final position (10.93.4) is part of an epithet (nṛmṇáṃ stutáḥ) in dimeter verse and stands apart; stutáḥ normally is found at or near verse-initial. On the other hand if despite these arguments we wish to accept stutáḥ in the text here, it would further confirm the meaning 'praised' for stávān, just as much as the replacement stávān → stutáḥ does.

Geldner, following Sāyaṇa, took stávān as an apocopated

middle participle form stavāṇáḥ; the latter is suggested with a query by Renou, Gr. véd. §105 (assuming stavāṇ́as). Such an explanation by apocope, however, is in principle valid only for the relatively rare and archaic instances in the RV where we have the 'deletion' of the case form final, -bhís or -su in particular, in a series of conjoined grammatically parallel nominal forms: VI 8.7 (cf. I 143.8) ádabdhebhis táva gopā́bhir isté[bhiṣ] 'mit deinen unfrügbaren, lieben Schützgelstern'; I 105.5 trisv á rocaná[su] 'in den drei Lichtrufchen' (cf. Renou, l.c.). In these cases we have to do with an extremely archaic syntactic feature, comparable to Tocharian 'Gruppenflexion' (cf. Krause-Thomas, Toch. Elem. I.91-2). But this situation is not applicable to stavā́n, which must be taken at face value.

Despite its aberrant inflexion, which exhibits the pattern of the nom. sg. of -vans- stems and may have been influenced by them, I would suggest that Ved. stavā́n and Gāth. stavas are in a fundamental sense the same form: morphophonemically a stem {steu̯-ent-}, by accent differentiated secondarily in diathesis to 'active' {stéu̯-ent-} > Gāth. *stavat-, and 'passive' {steu̯-ént-} > Ved. *stavánt-. That is to say that here the suffix -ent- has the same value as the -to- of Latin 'active' pōtus 'having been drunk'. The basic sense of {steu̯-ent-} is simply 'connected with (religious) praising', whether at the divine goal of the process (hence the 'praised' god in India) or at its inception by mortals (hence the 'praising' poet in Iranian). Cf. the remarks of Burrow, Skt. Lg. 143-4.

The participial suffix -mHno- in other words by exactly Vedic form is thus exactly comparable in distribution to the Hittite participle -ant-. Hittite -ant- occupies the same functional position as the suffix -to- (-no-, -e/o-no-) in most Indo-European languages; Hitt. kunant- equals Ved. ghnánt- in form but hatá-, Gk. (Hech.) φατός in function. Just so is Ved. stavāná functionally identical with Ved. stutá-, and indeed in one case probably replaced by it.

The same scheme is preserved elsewhere in Indic only in a few synchronically adjectival formations in -ant- (cf. Wackernagel-Lebrunner II 2.160 ff. and Burrow, l.c.), whose suffixal function becomes especially clear by comparison outside Indic. Thus the functional identity *stavánt- : stutá- is isomorphic to that of mahánt- (Yr. mazant-) : Lat. māctus and magnus, the finite verb appearing especially in Olr. do°formaig 'increases' (to-for-mag-). (It is uncertain whether the nom. sg. mahā is in any way connected with that of stavā́n.) One is tempted to confront in the same way bṛhánt- (Ir. bar°zant-) and Lat. fortis, Olat. forctus (dial. horctus); but cf. Ernout-Meillet[4] s.v. The finite verb is most clearly attested in the Hittite 3 sg. ipv. mid. park-taru, indic. parkiyat[ari], with the alternation between athematic and -ie-/-io- formant noted in ch. II §7. These two Hittite forms occur in successive parallel sentences in KBo XXIII 68 II 1, 2, and must belong to the same lexical item.

Ved. pṛ́śant- 'speckled' (probably with retracted accent,

like *súšant-* 'bright') may be compared to diyúš-as with Hitt. (reduplicated) *paprakšant-* 'sprinkled', participle of *paprakš-*; see on these and related forms Ivanov, *Obščn. sist.* 144, with references.

Ved. *járant-* (= Gk. γέροντ-) is properly the participle of *járati* (RV *jaranti*), which is transitive, 'make old'; hence the participle is basically passive in sense, 'made old'.

An example from another Indo-European language is Goth. *hulundi* 'cave, σπήλαιον' < *k̑el-n̥ti, which is not as commonly taken 'die verbergende', but rather 'die verborgene'. For the semantics compare Gk. κρύπτη 'crypt', feminine of κρυπτ-τός 'hidden'.

Particularly notable are Ved. *íyant-* 'so much/many', *kíyant-* 'how much/many', with their variants *ī́vant-*, *kī́vant-* 'id.'; for the same suffixes appear in Hitt. *mašīyant-* 'how much/many', with variant *mašivant-* 'id.'. Compare what was said above of the possible influence of the *-vant-* paradigm (nom. sg. *-vā́n*) on the form of nom. sg. *stavā́n*. The same suffix **-ent-* to a similar base is found in the Latin adverbs *quotiens*, *quotiens* < neuters **toti-n̥t*, **kʷoti-n̥t* (the base in *tot*, *quot*), as shown by Thurneysen, *AIL* 5.575 (1888).

Historically the suffix **-uent-* is the successor of the same **-ent-*, formed by the suffixation (in Indo-European times) of **-ent-* to stems in final *-u*, with a new morpheme segmentation *-uent-* replacing *(-u)-ent-*; compare the genesis of suffixes Ved. *-ī́man-*, Celt. *-iall-*, or Lat. *-ī́nus* discussed above, ch. III §9. Hittite *akuwant-* 'stony' beside *aku-* 'stone' still attests the

[illegible] *skewrant* or *skywane* (cf. Prediger, Keith. Fiery? [illegible] 2 Ann.). This ambiguity, with intervocalic stage *skw-went-*, is responsible for the development (by assimilation) of the [illegible]

The sound of *gwiht* and *gwalo* and finally of the word *cwic* on the early historical language-frame-[illegible] Although [illegible] [illegible] [illegible]

XI. Italic

§1. The term Italic will be used here in the traditional sense of the common language intermediary between Indo-European and both Latino-Faliscan and Osco-Umbrian, the sense for example in Meillet's Esquisse d'une histoire de la langue latine[3], ch. IV. Even though scholars have criticised this position, it remains a convenient starting point; and it has never been shown that Latino-Faliscan or Osco-Umbrian are more closely related to some other dialect than they are to each other. Indeed no feature or features of the system of personal endings in either dialect is inconsistent with the hypothesis of a unitary Common Italic.

For both Italic and Germanic we must assume the total elimination of the zero-endings in the paradigm -oμο -ε -ε, by the adaptation of the -s -t of the athematic type. The resultant paradigm was in the singular

-ō

-es(i)

-et(i),

which with the generalization of the particle -i yields the attested forms of Latin (uehō uehis uehit) and Germanic (Goth. ga-wiga -wigis -wigiþ). Yet the development was probably independent in each, since the plural forms diverge in part. For Germanic this is the whole story, while in Italic we must reckon with

both subjunctives and thematic [illegible].

The Italic plural shows a paradigm reconstructible as

-omos(i)

-etes(i)

-ont(i)

The 3 pl. form is attested in Olat. (Carmen Saliare) prae teí tremonti, and agrees exactly with the forms of the other Indo-European languages. In the 1 and 2 pl. the endings have undergone a refashioning by the suffixation of -s(i) to the basic *-o-mo, *-e-te (> Smc. -am, -ē) in Italic times. This is clear in the 2 pl., where the imperative preserves the older form intact : Lat. ipv. legite = Gk. ipv. and. ind. λέγετε. It is likewise clear in the 1 pl., where the mediopassive Lat. -imur shows the older ending *-o-mo suffixed by -r; cf. 1 sg. mid. -or < *-ō + r. The element -s(i) may be identified with the -ε of Dor. -μες and the -si of Ved. -masi, as well as the Olr. 1 pl. active absolute -md < *-mesi; it is uncertain whether or not the -i was ever present, since *-si and *-s merge in Lat. -s.

The Germanic present plural forms, Goth. -am, -iþ, -and go back to the same *-o-mo *-e-te *-ont(i), with the generalization of primary -i in the 3 pl. as in 2 and 3 sg. The secondary endings, partly renewed, were preserved only in the (optative-subjunctive) modal function: Goth. pres. 3 sg. nimai < *-oi-t, pret. 3 sg. nemi < *-ī-t. Southern Germanic 2 sg. pret. ind.

-i (Old Irish -id) does not reflect IE *-ti, but an optative form; cf. Polomé, Proc. IX Int. Congr. Ling. [illegible]. For the detail of the Germanic forms see Krav. Gram. Germ. Jaz., ch. 4.

§2. Italic also shows the paradigm without the particle -i, in the old subjunctive/future erō eris erit, cf. especially Olat. esed. The secondary endings recurred also in the (athematic) subjunctives in -ā- and -ē-, as shown by the Oscan forms kahad 'capias, capiat' pútíad, pútíans 'possit, possint' < *-ā-s, *-ā-t, *-ā-nt, ferríns < *-ē-nt. On the evidence of Olat. aduocapit(o) = aduocabitis, which as Norden showed (Altröm. Priesterb. 181) contains the old 'injunctive' secondary ending 2 pl. -te, it may also be suggested that the Latin b-future was originally inflected with the same secondary endings as in erō. Thus -bō *-bes *-bet < *-bhy-ō *-bhy-es *-bhy-et. The 1 sg. may be directly equated with the Av. 1 sg. subj. bvā = /bhvə/, RV subj. bhuvā(-ni); 2 and 3 sg. are formally identical with RV inj./subj. bhuvas, bhuvat.

§3. Old Latin shows numerous examples of a 3 sg. perfectum in -ed, beginning with the earliest texts : fecid, Fraen. vhe:vhaked. The same desinence is well attested in the same function in Faliscan fifiked 'finxit' (Ve. 257), pex-ded 'obtulit' (Ve. 241), Oscan prúfed 'probavit' kúmbened 'convēnit', deded

'redit' etc., and Umbrian *dede* [illegible] final -*d*. Since the Italic perfectum represents [illegible] of older perfects and older aorists, and since the older perfect ending *-*e* appears in Latin as -*ei*-*t*, -*ĭt* (Vendryes, *Choix d'études* 156-8), there is every reason to assume with the majority of scholars that this ending reflects the classical Indo-European secondary thematic 3 sg. *-*et*. It is the ending of the old aorist.

In Latin we must suppose that this 3 sg. -*ed* coexisted in the paradigm with the 1 sg. *-*ai* > -*ī*, 2 sg. *-*isisi* > -*istī*; while no 1 or 2 sg. perfect forms are attested in the earliest epigraphic texts (both 1 sg. *peciei* and 2 sg. *gesiesei*, attested in the epitaphs of the later Scipios (Ernout, *Rec.* 16 and 14, q.v.), are archaizing, and stand for -*ī*, -*istī* of the contemporary spoken language), they appear from the very beginnings of the literary language, in Livius Andronicus. We know that in the closely related Faliscan, the paradigm of the perfect in the very archaic Ceres vase-inscription (We. 241) included 1 sg. -*ei* (*peparei*, *fitei*), 3 sg. -*ed* (*porded*), 3 pl. -*e*(*n*)*d* (*f*[*if*]*iiond*, cf. Lejeune, *Corolla ling.* 144-53), thus clearly showing both perfect and aorist endings together.

In Oscan, however, beside the 3 sg. -*ed* the 1 sg. perfectum was -*um*: *manaf-um* ~ *aa-manaff-ed*. The 3 pl. was -*ens*: *dedens*. Umbrian attests 2 sg. perf. -*us* in *ku-kehes* 'nocuus es'. The other persons are unknown; Umbrian agrees in the third persons. From the 1 sg., differing as it does from Latin and Faliscan,

it appears thus clear that Osco-Umbrian generalized the aorist endings, as opposed to Latin which ultimately generalised those of the perfect; cf. the similar divergence between the two in the o-stem nom. pl. of noun and pronoun, Latin generalizing pronominal *-oi > -ī, but Osco-Umbrian nominal *-ōs > O. -ús, U. -ur. Whether Lat. 1 sg. sum and O. súm (but also sim), are likewise to be referred to a secondary *-om, remains uncertain; it is still a possibility, despite Szemerényi, Syncope 191-5.

§4. In any case the Oscan thematic secondary 1 sg., 3 sg., and 3 pl., the Faliscan 3 sg. and 3 pl., and the Latin 3 sg., amply justify the reconstruction of a complete secondary thematic paradigm for common Italic; its locus may be assumed to have been the Italic aorist, before the functional merger of the latter with the perfect. We are thus led to recognize for Italic at least a small nucleus of forms exhibiting the same paradigmatic structure as we were led to postulate in the preceding chapter for Indo-Iranian §1, with distinct 1 sg. forms but identity in the 2 and 3 sg.:

-ō -om

-es

-et

In one verb we may point to traces at least of both paradigms,

subjunctive/future -ō -ēs -et and aorist injunctive ('injunctive') -om -es -et. The Latin futures in -bō refl. *-bhuō *-bhues *-bhuet, as pointed out above. The Oscan 3 sg. perf. subj. fuid (Ve. 2.28, 29) presupposes a 3 sg. perf. indic. *fued, cf. Osc. ind. αναfαμετ (Ve. 190) or Praen. vhevhaked beside Osc. subj. fefakid (Ve. 2.10). For the notation of final -d by -τ in the Greek alphabet cf. δεδετ (Ve. 191) = deded (Ve. 11). This Oscan *fued may be equated with OLat. fuet (Ernout, Rec. 13 [Scip. elog.]), save that the latter has renewed the final -d by -t. We have a reflex of *bhuet, which enters into an indicative paradigm comparable with the Vedic injunctives bhuvam bhuvas bhuvat, just as the future in -bō is comparable with the Vedic subjunctives bhuvāni (Av. bva) bhuvas bhuvat. The phonological variation between *bhuet as a free form and *-bhuet as an auxiliary in composition (*amā-bhuet) is comparable to that between (g)nōtus and co-gnītus < -gnātos, or that between Ved. 1 sg. bhuvam and nom.-acc. sg. á-bhvam 'monster', lit. 'non-being'. Cf. Kuryłowicz, Apoph. 172. It is still possible that the creation of the thematic stem *bhue/o- is independent in Italic and Indo-Iranian : RV 1 sg. (a)bhuvam is only attested from Bk. X, though it is not found in AV.

We have avoided terming this formation an Italic thematic aorist, for the reason that there is no evidence to justify such an appellation, in the same sense that we may speak of a Greek or Indic thematic aorist opposed to an athematic one. In Them. Aor. 106 ff., Cardona has suggested very plausibly that a number

of non-sigmatic and non-reduplicated perfects in Latin and Osco-Umbrian represent secondary thematicizations (in Italic times) of Indo-European athematic root aorists. He compares O. kúmbened, Lat. pf. uertit and U. fut. pf. couortus, OLat. fuet with Ved. ágan → agamat, avarṭ → paryāvṛtas (AV), ábhūt → abhuvat, and suggests a similar derivation for līquī, uīcī, fūgī, rūpī.

In principle this explanation is doubtless correct, though one can debate about individual cases. Where we have evidence for an athematic aorist in early languages, there is a general tendency toward thematization in the history of the later languages, as shown already by Meillet in the study cited in ch. IV §6. Yet as we have noted earlier, this dialectal process of mechanical thematization presupposes the existence in the dialect of a thematic model. If we can plausibly suggest a tendency to replace root + -m -s -t by root + -om -es -et, then we must assume the prior existence of -om -es -et in the language, however limited its extension.

For this reason I would suggest that the creation of a thematic stem (with the endings -om -es -et) in some of these cases belongs already to the Indo-European period. The two clearest cases are precisely the roots *g^{w}em- (Osc. kúmbened) and *bhu- (Osc. fuid, OLat. fuet).

§5. Indo-Iranian attests for both of these an ancient thematic 'éventuel'. The stem *g^{w}eme/o- was clearly incorporated

into the verb both as an injunctive (whence the imperative Ved. gámantu) and as a subjunctive (Av. jimat); Ved. gamat, gámanti allow either interpretation, cf. ch. IV §9. The great antiquity of this formation is shown by the phonological form of Ved. jamad^{c} in composition, cf. ch. VI §10.

The injunctive and subjunctive stem bhuva- of Indo-Iranian has been noted above. Even though the RV 1 sg. inj. bhuvam is attested only in book X (5x), it is significantly not found in the AV (among 10x of bhuvas, bhuvat), and the root athematic aorist 1 sg. bhūvam which was theoretically replaced by thematic bhuvam is not found at all in RV or AV. Augmented 1 sg. abhuvam occurring twice in book X is built on the thematic injunctive bhuvam, and not a phonetic reflex of *e-bhu-ə̯-m, as it is sometimes explained. Aorist and injunctive 3 pl. (a)bhūvan, and perfect babhūva, both well attested in the older books of the RV, show that the fixation of the root form bhūv before vocalic ending antedates the attestation of abhuvam.

The Italic forms *g^{w}enet (replacing *g^{w}emet, though at what period and precisely why is uncertain) and *bhu(u)et thus may well continue thematic forms of predialectal antiquity, though a certain amount of reshaping may have taken place.

The root '*bhū-' shows clear evidence of an anit form (*bhu-) in Italic; cf. Lat. fŭtūrus, fore < *bhu-se, foret = Osc. fusíd < *bhu-sĕt, and the remarks of Cowgill, Lg. 39.169 (1963). Similarly in Celtic: OIr. both 'being', W. bod < *bhutā. On the other hand both Plautus and Ennius attest the scansion

fŭit (Pl., Capt. 555), fŭimus (Enn., Ann. 577 Vahlen, Pl., Capt. 262), etc., beside the normal classical fŭī already common in Plautus.

Meillet-Vendryes, Traité² 121 assume doublets fu- (with short vowel in hiatus) and fŭ̯u- (with long vowel followed by consonantal u). The latter is probably the best explanation of epigraphic fuueit (Ernout, Rec. 144), since the inscription does not otherwise note long vowels doubled, but does mark geminated consonants. The assumption of doublets fŭ- and fŭ̯u- would accord well with the Ennian practice, where we find the scansion fŭ- (=fŭ̯u-) regularly in the Annales, but usually fu̯- in the plays: monosyllabic fuit Scaen. 410 Vahlen, also fuat 177. Disyllabic fuisse is a conjecture in 148 (not recorded by Vahlen), but the verse is corrupt.

The suppletive relation of the roots *es- and *bhŭ- is a creation posterior to the common Italic period; the implementation of the two roots differs among Oscan and Umbrian and Latin, and indeed between the archaic and classical periods of the last. Cf. both es-se and fo-re < fu-se in Latin; impf. erant but Osc. fufans; impf. (< opt.) erat beside fuat; impf. subj. esset beside Osc. fusíd; ipv. estō and Osc. estud beside Umb. futu; fut. erit beside Osco-Umb. fust. The Italic root fu- is thus clearly attested in the infectum, from which it was excluded in classical Latin. The conditions for the development of a suppletive verb were doubtless that *es- was confined to the present system.

The root bhŭ- in Indo-European must have formed also both

a root aorist and a perfect. For the aorist we have Ved. ábhūt, Gk. ἔφῡ̄, and OCS by, bystǫ; for the perfect note clearly Av. bvāva = /bubāva/, pl. bābvarə, and Olr. 3 sg. boí < *bhoue, archaic 3 sg. rel. boíe < *bhoue-io, beside which Ved. babhūva with its rigid vocalism is an innovation. On the Indo-Iranian forms see Benveniste, Symb. Kuryłowicz 25-33. The Old Irish form boíe belongs to the copula, not the substantive verb as in Thurneysen, OIr. §789, since it occurs in the syntagma with the genitive case expressing belonging: tír boíe Chuind chétchoraig 'land which belonged to Conn of the hundred treaties' (see Binchy's commentary to his edition of the text, Ériu 16.46 [1952]). In this construction only the copula is used: is ed 'est eius', as contrasted with the syntagma of substantive verb + dative expressing possession: táith-i 'est ei (Olat. escit ei)'. See the "Remarks on the genitive" in the Festschrift for Roman Jakobson.

Monosyllabic roots in final long vowel show regularly in Latin a u- perfectum, which suggests that the perfectum goes back to an early Italic or Indo-European perfect (ch. IIX §3): cf. plē-u-ī : Ved. papráu; (g)nā-u-ī : Ved. jajñáu, OEng. cnāwan cnēow; flā-a-ī : OEng. blāwan blēow; sē-u-ī : OEng. sāwan sēow, OSax. gisārseu.

If there is evidence both in Italic and from other languages for the assumption of an Italic aorist *bhoust < Olat. fuet, fuit, it is likewise possible that there was formed in Latin or an early dialect of Common Italic a perfect *bhē-u-ai, with the

some suffixation of -u- to accentless root [illegible] vowel as in the cases just noted. The long vowel stem *bʰūː- before the suffix -u- represents the old athematic aorist of Ved. *ábhūt*, etc., just as we may confront plē(uī) : aor. πλῆτο, gnō(uī) : aor. ἔγνω. The Italic perfect stem *fū-u- is built on the old long-vowel aorist stem *fū- (otherwise lost in Italic), just as Ved. perf. ba-bhū(v)- was independently built on the aor. bhū-. In this fashion we could account for the variants fŭī and fŭī = fūuī observable in the initial stages of the literary language, a variation later eliminated by the generalization of the former.

§6. To what extent other Italic radical perfects may either reflect antedialectal thematic formations, or athematic forms thematized in Italic times, is uncertain. The case of uertī, U. couortus is ambiguous because of the vocalism in Latin, since IE *uert-, *uort- and *urt- all merge at one period or another in the history of the language; uertī could thus also go back to a perfect with loss of the reduplication (if it was originally present). The vocalism of Umbrian courtus contrasts with present couertu 'convertito'; it probably reflects the zero-grade *urt- expected in the reflex of the perfect of TeRī- roots, as in Umbrian fut. perf. dersicust 'dixerit' < *de-dik-. Oscan shows in this verb the loss of the reduplication: fut. perf. dicust, contrasting with the full grade of the present stem (inf. deikum, subj. deicans). Lat. uertī (uertistī Plaut., Merc. 433) could similarly go back

to *[we]woyd- < we-woyd-, cf. scīdī > (late) scidī, *fīfidī > (late) fidī, Sommer Hdb. 533.

As Sommer points out, the relatively late scidī, fidī have been generalized from the form in composition with a preverb, where the reduplication is regularly lost (indeed doubtless was never present, cf. the same feature in Celtic), whereas līquī, uīcī fūgī, rūpī, fūdī appear from the beginning of the literary period. For this reason they are unlikely to replace reduplicated perfects. Cardona's suggestion of a thematicized root aorist *leik^{w}- > līgu- has much to recommend it, cf. perhaps RV 2 sg. aor. mid. rikthās but especially the aor. pass. recī. RV rikthās as an athematic middle with zero-grade is actually more likely to go back ultimately to a 3 sg. form *lik^{w}e/o, via the split in segmentation described in ch. VIII §11. With the segmentation *lik^{w}-o (whence 3 sg. *lik^{w}-to) we have 1 sg. *lik^{w}-ṣo, 2 sg. *lik^{w}-tṣo > rikthās = rikṛha + as. With the segmentation *lik^{w}e-Ø and the suffixation of 3 sg. -t described in ch. VII, we have *lik^{w}et as in Gk. ἔλιπε, Arm. elik'. The first (athem. mid.) case illustrates our paradigm IIb (ch. VIII §13, the second (them. inj. > aor.) illustrates a special development of paradigm I (ch. VIII §5 and ch. VII §4).

Similarly *bheug- > fūg-, cf. perhaps Gk. ἔφυγον. For fūdī, we would have to assume an original thematic (present) stem *bheu-de/o-, cf. Goth. giutan, since there is no athematic suffix -d-. For lack of cognates in appropriate morphological categories, rūpī remains uncertain.

In the case of uĭcĕī (vīncō) [illegible] Irish fichid 'fights' shows a preterite fíchid from pre-Irish *ui-uik-; one is tempted to derive the Latin perfectum uīcī from the same preform, with regular loss of -u- between like vowels and contraction. It would then reflect an old perfect, rather than a root or thematized aorist.

Yet there are other Latin radical perfects which may be explained as thematized aorists, or even as inherited thematic forms.

§7. Lat. uĭdī is customarily equated with OCS vědě as *u̯oid-ai, and allowing for the ending, further with Gk. Fοἶδα, Skt. véda, and Goth. wait : an old unreduplicated perfect. Cf. Sommer, Hdb. 551, Meillet-Vendryes, Traité² 118, Pokorny, IEW 1125. Phonologically it is quite possible, cf. uĭcus : Fοἶκος. Brugmann, KVG 546, considered it questionable (though for the wrong reasons); but in particular Ernout-Meillet⁴ 734 state that 'le sens ne permet pas de rapprocher uidi de gr. Fοἶδα.' They are doubtless correct. For if Latin had inherited as important a perfecto-present as *u̯oida(i) 'I know' from Indo-European, it would surely have preserved it as such, just as in Slavic or Celtic, the more so since the category of perfecto-present existed in the language (coĕpī, ōdī). The perfecto-present *u̯oida(i) does not exist in Latin because it was replaced by the perfecto-present (g)nōuī. That a form semantically a present meaning

'know' since common Indo-European times thereupon went back in Latin to the semantic status of a perfect meaning 'saw' is unlikely in the extreme; indeed it is doubtful that IE *u̯oida ever meant simply 'I have seen (and therefore know)'.

A full-grade athematic aorist stem *u̯eid- is attested in the RV aor. pass. védi in 4.16.4 sáar yád védi sudṛ́śīkam arkaíḥ 'als das schön zu schauende Himmelslicht durch ihre Zaubergesänge gefunden war' (Geldner). The juxtaposition with sudṛ́śīkam shows how close the verb védi is to the notion of seeing; it could be translated as well 'appeared', and the collocation védi sudṛ́śīkam is semantically a virtual figura etymologica.

Balto-Slavic as well attests an old athematic *u̯eid- 'see' in OLith. weizdmi, OCS ipv. vĭždi, pple. vidomŭ; cf. Meillet-Vaillant Sl. comm.² 206; Stang, Vertum 22, 99; Vgl. Gr. 310,314. The OCS forms as well as the semantics argue against the direct equation of vĭždǫ viděti 'see' with Lith. pavýdžiu pavydė̃ti 'envy someone something' on the basis of a Balto-Slavic lengthened zero-grade *u̯ī̆dē̆-, as suggested by Kuryłowicz, Apoph. 292. His explanation is valid only for the Lithuanian form.

On this evidence we may postulate the conservation of the same athematic stem *u̯eid- as the Italic aorist of the verb 'to see', preserved in Lat. uīdī; cf. līquī beside RV aor. pass. reci above. For the formation of the Indo-Iranian aorist 'passive' and its antiquity as an Indo-European type see Colt, Vb. 103 and ch. III §6 above.

§8. In ch. VI §10 above we noted the thematic long vowel formation *sēde preserved in RV sādáyanti-, OCS 1 sg. aor. sědъ, and Lith. sėdi 'sits'. If following Stang we interpret the Balto-Slavic long-vowel forms as built on this aorist, it should be noted that Kuryłowicz's explanation of the genesis of the Balto-Slavic lengthened grade of this verb in Apoph. 305-8 cannot be correct; nor will his explanation of the Indo-Iranian type mā́sti, tā́sti = Av. tā̊šti (Apoph. 155) account for Indic sā́dad^{a}. In each case Kuryłowicz assumes that the absence of the thematic vowel triggers the replacement of radical ē by ē̆. But if the thematic vowel is ancient, as in sědъ and sā́dad^{a}, the conditioning factor for the dialectal lengthening is absent. There are thus independent grounds in two traditions for the assumption of a lengthened grade formation *sēde-, however we may wish to account for its genesis in Indo-European proper. Cf. also OIr. sīd 'peace' and 'calm, sound' < *sēdos (s-stem) beside Gk. ἧδος.

In recent years the Latin perfectum sēdī has been usually derived from a reduplicated perfect *se-sd-; cf. Benveniste, Arch. Ling. 1.16-19 (1949), and Kuryłowicz, BSLP 10.46 (1950). From the comparative point of view this is possible, cf. the Avestan perfect optative hazdyāt (but AV sasadyāt, with irregular full grade root). Yet the one other clearly reduplicated CeC-root in Latin has o-grade, not zero-grade : dīdicī < *de-dck- (ī- in the reduplication is after present dīscō). Where we have attested the reduplication of a TeR- root in Latin, it has the form Te-TōR-, not Te-TR- : cf. tetendī, tetigī, pepulī. A reduplicated *se-sd- is thus an abnormality

in Latin; only in the TeRH- roots (and monosyllabic TH-) do we have evidence for the zero-grade, reduplication Te-TH- cf. scicldī, U. dersicust < *de-dik-.

It is thus at least possible that Latin sēdī goes back rather to a thematic aorist stem *sēde- comparable exactly with OCS sědě, and attested as well in Ved. sādat. The formation is a wholly isolated one, in those languages which show it, including Latin; we may retain the general explanation of the Latin long-vowel perfectum as an innovation, as proposed by Benveniste and Kuryłowicz. It remains the coincidence of ēmī, ēdī, from reduplicated e-ed, e-em- and the isolated sēdī from *sēde- which is responsible for the creation of an apparent derivational process of lengthening em- → ēm-, sed- → sēd-, whence leg- → lēg- (lēx), reg- → rēx- (rēxit livius ap. Fest.), uem- → uēn- (uēnī) replacing *uēm-, cf. O. kúmbened). Cf. Celtic Vb. 32-5.

§9. The final Latin perfectum form which is to be explained as a thematized aorist is fēcī, Clat. fecēd. The form has been from the beginning compared with the Greek aorist ἔθηκα, with the -κ- confined to the singular (1 pl. ἔθεμεν). The form is attested in Oscan (Cupus), in the doubtless analogically reduplicated form 2 sg. fut. pf. fifikus (Ve. 6) < fe/i-fēk-, as shown by Lejeune, Gor. Ling. 148 ff. Whatever its origin, the -k- is the Italic form *fē-k-ud serves as hiatus-breaker, preserving the identity of root fē- and thematic endings -et etc. As such the thematic forms differ only by the

presence of -k- from the short vowel aorist subjunctive of the same root in Homer (outside the 1 sg.). Cf. θεῖομεν Α 143 etc. = *θῆομεν (Chantraine, Gr. hom. 1.71, 455) < *dhē-ome/o- beside fēcimus < dhē(k)-ome/o-. The 1 sg. θείω (π 83 etc.) = *θῆω contrasts with the presumed Oscan 1 sg. perfectum in -um, but the two would represent ultimately differentiations of a single paradigm. On the root *dhē- with and without -k- compare what was said above in ch. VII §§10-11 of Lat. fēcerunt, fēcerō.

It is noteworthy that this root alone in Italic shows dialectally both the old aorist, in Lat. fēmed, O. ffiíkus, and the old perfect, in Lat. con-dídit, O. fefed. The full grade *dhē- without -k- is conceivably attested in the Umbrian 3 sg. subj. fela, which curiously recalls the Lith 3 sg. pret. dė̃jo, though a direct connection seems unlikely; the Umbrian form is usually taken as an obscure replacement for *fecia.

§10. With the generalization of the particle -i in the present, we are led to postulate for the earliest Italic, in the indicative, the following paradigms associated with aspecto-temporal functions.

sg.	pres.	aor.	perfect
	-ē	-om	-ai
	-esi	-es	-tai
	-eti	-et (> -ed)	-ei
pl.	-omos(i)	-oms(-?)	-moi(-?)

-etes(i)	-ete(-?)	-te(-?)
-onti	-ont (> -ond)	-ēr(e?)

Aorist and perfect 1 and 2 pl. are uncertain, but plausible in the light of imperative and deponent, as noted above. The 3 pl. secondary -ont is assured by Pal. fifiqe(n)d 'finxerunt' and Osco-Umbrian -ns (Osc. fufens 'fuerunt', Pael. coisatens 'curaverunt', with the vocalism *-ent of the athematic type, cf. Osc. sent 'sunt'.

§11. It is noteworthy that Plautus uses the 3 pl. perfect ending -ere most frequently before a vowel, with elision: e.g., fecere insidias Bacch. 1206; operta quae fuere aperta sunt Capt. 524; edere alienum cibum Pers. 58; cepere urbem Pers. 506. Cf. Havet, RPh 31.230 (1907), who first called attention to the fact, as well as Ernout, Morph.[3] 216, and compare the Plautine usage of ac before consonant, atque before vowel. This may suggest that the earlier 3 pl. perf. ending was simply *-ēr, which would agree exactly with Hitt. 3 pl. pret. -er, -ir; compare Hitt. eter 'they ate', eppir 'they took' with the Latin forms just quoted. But even if this is so the final -e of -ēre remains enigmatic. Cf. ch. XIV §13 below, on the West Tocharian 3 pl. preterite endings -re and -r.

§12. In ch. III §10 above it was tentatively suggested that there also existed in Italic at least a small nucleus of forms charac-

terized by a root final element -is, of which *fēkis(-), paralleling Hitt. 3 sg. pret. dāiš, would be the prime example. The sigmatic character of the formation, and the position of its Hittite cognate (3 sg. pret.) would suggest that it was associated with the aorist function; an originally radical form with zero-ending functioning as the fundamental 3 sg., which served as the point of departure of a sweeping set of innovations in the Latin verb, both in inflexion and derivation, in conjunction with the functional merger of old aorist and old perfect, and their conflation in the new emergent perfectum.

The elimination of the earlier opposition aorist : perfect must be Common Italic, since no Italic dialect shows a functional contrast between the two, and all attest the succeeding bipartite organization of the verb into the opposition infectum : perfectum. On the other hand the divergence in desinences of the perfectum among Latin, Faliscan, and Osco-Umbrian, as well as the even greater divergence in stem-formation of the perfectum in the same languages, shows that the formal expression of the new perfectum had not yet been codified before the separation of the dialects. This is equivalent to saying that the merger of aorist and perfect is among the latest developments of the Common Italic period, and one quite possibly completed only after the separation of the dialects. Given the universally recognized close relation between Italic and Celtic, it is entirely to be expected that in Celtic as well, the merger of aorist and perfect into a new preterite was quite late, since both sets of endings are still preserved (in the singular) in Old Irish in their original distribution: 3 sg. *-s-t(i) in s-preterite (< aorist),

3 sg. *-e in the reduplicated preterite (< perfect). The contrast with Germanic, where the same merger led to the complete elimination of all forms of the aorist already in Common Germanic times (cf. Polomé, Proc. IX Int. Cong. Ling. 870-880) is noteworthy, and significant for the dialectology of Western Indo-European.

The radical stem of the type *fēkis, probably functioning as a 3 sg. aorist in competition with *fēk-et (> feced already in Common Italic), and perhaps as 2 sg. aor. as well, was extended in the latter function by the suffixation of the 2 sg. perfect ending -tai, thus creating a 2 sg. desinence with overt in place of zero-ending, and one of "strong" (i.e. highly characterized) phonetic shape. The 2 pl. followed suit, whence the enlarged ending *-is-te-, Lat. -istis. And the 3 pl. suffixed the productive aorist ending onto the zero-person 3 sg. in -is, whence *-is-ont: Lat. -ĕrunt, cf. archaic and dialectal dedrot 'dederunt' with the short e syncopated (Pisaurum: Ernout, Rec. 75, 76).

§13. At the time immediately prior to the functional syncretism into the perfectum there were thus in the dialect ancestral to Latin three paradigms involved:

sg.	-om		-ai
	-es	-istai	-tai
	(-et >) -ed	-is	-ei

pl.	-omo(s)		-mo(s)
	-ete(s)	-iste(s)	-te(s)
	-ont	-isont	-ēr(e?)

While we cannot know the exact order of the changes, the results of the functional merger of these forms are clear in Latin. In the 1 sg. -om was eliminated in favor of -ai, a development shared with Faliscan; in the 2 sg. -istai was generalized at the expense of the less highly characterized -es and -tai; in the 3 sg. -is was eliminated but -ed and -ei coexisted as optional variants, the latter further affected at some point with the final -t to reinforce its 3 sg. function. Hence the proximate forms of the Old Latin perfectum,

-ai

-istai

-ed ~ -eit

whence -ī, -istī, -īt > -it, with the ultimate elimination (in historical Latin times) of 3 sg. -ed. The earlier choice between -ed and -eit may have been a matter of regional or more likely social dialect, manifested in the particular style of discourse; but our documentation is too slender to permit a certain conclusion.

Osco-Umbrian, on the other hand, generalized the aorist endings and completely eliminated those of the perfect; and it shows no trace of the morph -is-. Thus sg. -um -es -ed in Osc. manafum, Umb. kukehes (kaḫ- : kēh-, cf. Lat. capiō : cēpī), aa-manaffed. Faliscan

shows 1 sg. -ai and 3 sg. -ed.

In the plural, the 1 pl. ending with initial vowel prevailed, which is predictable in view of the vocalic initial of the other persons; likewise predictably the most highly characterized 2 pl. form -iste(s) was generalized. The final -s of these endings represents that of the same persons in the present; at precisely what point this took place is uncertain, but of no particular importance. In the 3 pl., -isont prevailed over -ont, a classical instance of Kuryłowicz's first law of analogy; but just as in the 3 sg. the form coexisted in the 3 pl. perf. function with the variant -ēre from the old perfect, indeed virtually throughout Latinity. The phonological reflex of -isont was Lat. -ĕrunt; more precisely, with the generalization at an unspecified time of the final -nt proper to the primary (present) ending from *-nti. The coexistence of -ĕrunt and -ēre led to the creation of a sort of compromise form -ērunt, which became the norm in the literary language, and is already in Plautus more frequent than -ĕrunt; it is a mark of the artificial character of literary Latin that the Romance languages reflect only -ĕrunt (OFr. distrent < dīxĕrunt). For details of the forms of the paradigm as attested in Latin see Meillet-Vendryes, Traité² 348-351, with references.

§14. The old 3 sg. form -is, while displaced from its earlier indicative function, did not for that disappear entirely; for it was utilized to form the stem of the perfectum in all the tenses and moods outside the perfect indicative in Latin : the future perfect -is-e/o-

(fēcerō), pluperfect -is-ā- (fēceram), perf. subjunctive -is-ī- (fēcerim), plupf. subjunctive -is-sē- (fēcissem), and infinitive -is-se (fēcisse). Indeed synchronically the stem of the perfectum is not fēc-, but fēcis-, which underlies every form of the paradigm except fēcī, fēcit, fēcimus, and fēcēre. The perfectum stem in -is- was treated exactly like an athematic stem, which testifies to the productivity of the athematic type in prehistoric Latin; we need only juxtapose the perfectum in -is- and the infectum of esse:

ind. fut.	*-is-e/o-	(-erō)	*es-e/o-	(erō)
past	*-is-ā-	(-eram)	*es-ā-	(eram)
subj. pres.	*-is-ī-	(-erim)	*s-i̯ē/ī-	(sīmus)
past	*-is-sē-	(-issem)	*es-sē-	(essem).
inf.	*-is-se	(-isse)	*es-se	(esse).

The subjunctive stem s-i̯ē/ī- is an archaism; the productive athematic subjunctive (historically optative) suffix was the non-apophonic -ī-, with full-grade root: *u̯el-ī- (uelim), *ed-ī- (edim), like *-is-ī-.

§15. We have seen in the preceding chapter, §2, that the Indo-Iranian "semi-thematic" subjunctive paradigm may be equated with the Latin present indicative of the originally athematic roots dhē-, dō-, stā-, on the basis of the equations Lat. dā, -dō : Gāth.

dā(-nē), Lat. stō : Av. xšŏtā. This semi-thematic inflexion is in essence simply the initial stage of the process of thematization, and it is not accidental that it appears in Indo-Iranian in the subjunctive, the original domain of the archaic thematic éventuel, cf. ch. IV §9 above.

The pattern *st-ō *stā-si *stā-ti repeats itself in other historically athematic verbs in final long vowel : nō nās nat (root *snā-), flō flās flat (root *bhlā-), and the deponent for fāris fātur (root *bhā-). It is apparent that we have thus an extremely important channel for the formation of the characteristic present paradigm of the latin first conjugation. The model -ō -ās -āt of these primary verbs in -ā was extended to the derived verbs in stem -ā-, of which at least one type, that of the factitive in -ā- : Hitt. -aḫḫ-, was clearly historically athematic. The same pattern was ultimately imposed on the denominatives and deverbatives in original -ā-ie/o-, whence the athematic aspect of their inflexion in the present.

The same development took place in Osco-Umbrian, on the evidence of Umb. 1 sg. subocc 'subuoco', Osc. 3 sg. faamat. Umbrian stahu 'sto' on the other hand shows an analogical suffixation of 1 sg. -ō to the stem stā-, parallel to Osc. 3 sg. staít, 3 pl. staínt, staíet. Both are new creations, not archaisms; Umb. stahu is thus similar to Olr. 1 sg. 'táu 'I am'. The older monosyllabic form is still preserved in enclisis, Osc. 3 pl. pústí<s>r 'qui stant', and in composition, Osc. eestínt 'exstant'.

§16. It is not only in the first conjugation that we may observe the spread of this semi-thematic paradigm; it is found in an important component of the third conjugation as well, the verbs in *-nă̄-, type linō (Skt. type punáti), on which see Evidence for Laryngeal 184-5. Latin dō dās dat, -dō -dis -dit reflects *d(h)ə̆-ō *d(h)ə̆-si *d(h)ə̆-ti. We have exactly the same paradigm in the type linō, which has like Celtic generalized the zero-grade of the suffix -neH- (-nă̄-) : -nə-. The earliest paradigm was fully athematic,

-nə-mi	>	-na-mi
-nă̄-si		-na-si
-nə-ti		-na-ti
-nə-mos		-nă̄-mos
-nə-tes		-na-tes
-n(ə)-onti		-n-onti,

with the 1 sg. attested by OKret. benafi, OIr. benaim < *bi-na-mi, 3 sg. ·ben < *bi-na-t, etc. With the adoption of the "semi-thematic" inflexion, i.e. the spread of 1 sg. -ō, we obtain the immediate predecessor of the Latin paradigm, with internal *-a- > -i- :

-n-ō	>	-nō
-na-s		-nis
-na-t		-nit
-na-mos		-nimus

-na-tes -mi-s

-n-onti -munt.

The "semi-thematic" inflexion thus appears as an archaic stage in the continuous process of the replacement of athematic by thematic forms. Its point of departure, to judge from Indo-Iranian and Italic, was the monosyllabic roots in final long vowel. In Italic, however, it extended further; not only to the na-verbs, but to other athematic roots in final consonant as well: uolō and its compounds nōlō, OIat. māuolō; edō; eō. Original athematic inflexion for all these is attested by the 1 sg. forms Lith. pavelmi, Ved. admi, emi. Yet all show in Latin a 1 sg. in -ō : *uel-ō, *ed-ō, *ei-ō. We may regard these forms as going back to the thematic vowel subjunctive, as suggested in ch. IV §4 above for eō; Gk. ἔδομαι as future agrees with such a view as well. But it is also possible that they represent simply the "semi-thematic" stage in the process of thematization, with commutability between 3 sg. -t(i) and 1 sg. -ō.

§17. In the same way we could account for Lat. ferō fert. Szemerényi has discussed the root *bher- at length in Syncope 189-199, and has shown convincingly that the root-present was conjugated thematically from the outset: it is the type Ved. bharati, OIr. berith, and mutatis mutandis Gk. φέρει which is ancient. For this reason he regards fers fert etc. as syncopated from *feris *forit (or *feies *feret). But this requires the further assumption that

the other obviously athematic forms like *fuam*, *fuerim* are somehow analogical (to what?); a view rendered particularly difficult by the existence of the athematically formed imperfect subjunctive also in Oscan : [f]errins 'ferrent'. On the other hand an athematic reduplicated present did exist, which we have in Ved. bibhárti, from which Szemerényi derives RV bhárti (2x) by de-reduplication. Rather than assume a problematic syncope in Lat. fert, it seems much simpler to derive the clearly athematic Italic forms from a de-reduplicated *bhi-ther- just as in Indic.

The Italic mediopassive, with its characteristic forms in -r, cannot be separated from the similar forms of the same category in cognate languages, particularly Celtic, Anatolian, and Tocharian. For this reason their detailed examination will be deferred to a later chapter treating the 'r-mediopassive' as a whole.

XII. Celtic

§1. A historical explanation of the system of personal endings in the Celtic verb is more difficult than in the case of the languages examined previously, due to the total or partial loss of the majority of old final syllables in insular Celtic. But the compensatory phonological developments of vowel-umlaut and consonant palatalization (in Goidelic), as well as the complex character of the conditioning of the loss of final syllables, permit a fairly specific determination of the shape of the lost phonological elements, more so than in the comparable situation of Germanic or Armenian. Yet uncertainties remain.

The system of personal endings in historical insular Celtic is dominated by the opposition absolute/conjunct; the verb takes conjunct endings when compounded with a preverb (including the negation) and when preceded by certain 'particles'; otherwise it takes the absolute endings (cf. Thurneysen, OIGr. §542). Historically it has been shown that this distribution is quite late, and that the earlier situation was one where the verb had conjunct flexion in the basic sentence-final position (whether or not compounded with a preverb), and absolute flexion in the stylistically marked initial position (where forms compounded with a preverb were excluded); see

Watkins, Celtica 6.1-49 (1963), Celtic Verb, passim, and Meid, Verbalflexion, passim. The situation was originally that the conjunct was the basic finite inflexional form, and the absolute a marked variant thereof; a situation still reflected in archaic Old Irish texts.

It is clear that in the fundamental third persons (sg. and pl.) the Old Irish and vestigial early Welsh absolute and conjunct endings go back in principle to the Indo-European primary and secondary endings respectively; cf. the works cited above, in particular Meid's detailed survey of the literature before 1963, to which one may add Kuryłowicz, Infl. Cat. 131-4.

§2. The basic conjunct athematic endings therefore correspond precisely to the archaic Indo-Iranian athematic injunctive, that is, to the oldest form of the present indicative, with secondary endings -m -s -t; cf. ch. II §24, ch. V §21 above. Examples will be given in the ensuing discussion.

The thematic conjunct paradigm (Thurneysen's class B I) is as follows:

*biur	*beram	(arch. *melom)
*bir	*berith	
-beir	*berat	(arch. tu*thēgot).

As noted in Celtica 6.43, as well as by Kuryłowicz, Infl. Cat. 132, the old paradigm corresponding to the Indo-Iranian injunctive is likewise found in the 'absolute' flexion (in sentence-initial position) in the imperative outside 2 and 3 sg., and the 'responsive' used in answering direct questions:

biur	berem
[beir]	berith
[bered] (arch. ceingeth)	berat.

Compare the numerous instances of the imperative preserving archaic indicative (and 'injunctive') forms discussed in earlier chapters; and note the identity in Old Irish 3 sg. indicative beir = 2 sg. imperative beir, $\Gamma_1 = \Gamma_3$ (ch. IX § 1).

The absolute paradigm of the same verb is as follows:

biru	berm(a)i
biri	beirthe
berith	bertait.

The absolute paradigm in Irish also shows special relative forms in certain persons:

	1 pl. berm(a)e
3 sg. beres	3 pl. bert(a)e.

The 2 pl. beirthe happens not to be attested, but is securely restoreble, cf. OIGr. §563.

§3. For the fullest discussion of the history of these forms see Meid, o.c. 54-60. In the conjunct plural the forms may be safely restituted as

*bheromo

*bherete

*bheront,

cf. Vedic injunctive bhavāma, bharata (also imperative), bharan, and Thurneysen, OIGr. §559. It is possible that the 1 pl. had a final -s (*-mos, cf. Lat. -mus); but the result would have been the same in any case, and we prefer the simpler hypothesis, which agrees with Ved. -ma and the Lat. passive -mur < -mo + r.

In the absolute plural the first and third persons are clear:

*bheromesi

*bheronti

The endings are comparable to Vedic primary bharāmasi, bharanti.

It should be noted that the absolute endings -(o)mesi and -(o)nti are those of the athematic forms : ammi 'we are' < *es-mesi, it 'they are' < *s-enti. Hence they could have been introduced into the thematic type from the athematic type within Celtic times, in order to provide the former with an 'absolute' flexion. As has been shown in preceding chapters, the most significant locus of the opposition between primary and secondary endings is the athematic type: -mi -si -ti ~ -m -s -t. In the thematic conjugation the secondary -om -as -et is only a dialectal development, and the endings -o‿o -e/o(t‿o) -e/o without the particle -i appear as presents in the Hittite middle (kiya : ašaya[t], kitta : κεῖτο). Compare also the same endings in the perfect (> OIr. suffixless preterite), which preserves the original situation, i.e. the absence of a distinction between absolute and conjunct endings. It is the Old Irish thematic conjunct which preserves these basic forms, as we shall see in more detail presently, and the thematic absolute represents an posterior innovation.

§4. As shown in Celtica 6.24-30, the special relative forms reflect the enclisis of an uninflected *-io (: Ved. yáḥ, Gk. ὅς) to the absolute endings of these persons; the Old Irish plural

relative forms go back regularly to

*bheromasi-io

*bheronti-io,

cf. as well as athematic relative 1 pl. amme < *es-masi-io, 3 pl. ata < *s-enti-io. The 3 pl. form is directly confirmed by Gaulish dugiiontiio 'who serve'.

That it was the absolute, i.e. Indo-European primary endings to which enclitic *io was affixed follows from the clause-initial position of the verb form, and the canonical second position of the enclitic element; in such a case absolute (primary) inflexion is the rule in Celtic. Cf. Meid, o.c. 85. Initial position of the verb in the relative clause is a syntactic archaism; the accentuation of the finite verb in the relative clause in Vedic is a reflex of its original clause-initial position as well, as Delbrück saw.

§5. The 1 sg. conjunct and imperative (*)biur likewise securely goes back to a Celtic *berū, IE *bherō, thus corresponding exactly to Gk. φέρω, Lat. ferō. The Celtic form of the ending is attested in Gaul. delgu 'I hold' in the inscription on a drinking

vessel neddamon delgu linda 'proximorum tenso potus' (Vendryes, EC 7.9-17 [1955]). But it is notable that in the latter text one cannot say whether the verb form is to be taken as 'absolute' or as 'conjunct'; the question is not really meaningful. The underlying structure of the sentence is Verb + Object (in that order) with the preposed genitive qualifying the object in 'Sperrung', like gréni fri turcbáil 'towards the rising of the sun' (Saltair na Rann 4434, cf. OIGr. §250). In such a syntactic case we would expect an Old Irish absolute form, and in this sense *bherō, Celt. *berū like Gaul. delgu, is equally the ancestor of OIr. absolute 1 sg. biru.

As Meid has stated, o.c. 139, 'Das Verhältnis

biru	-	biur
biri	-	bir

ist in erster Linie morphologish zu betrachten, und zwar auf der Basis des Alt- bzw. Frühirischen. Es ist unbedeutend, ob biru und -bir "lautgesetzlich" sind oder nicht. Das gleiche gilt für das Verhältnis von 2. Plur. beirthe zu -berid in Vergleich mit 1. Plur. bermi und -beram, was auch immer die Vorform von beirthe gewesen sein mag.' Purely formally, it would be possible to derive the remaining absolute forms outside the 3 sg., 1 sg. biru 2 sg. biri

2 pl. beirthe, from earlier relative forms, Celtic *berū-i̯o *berī-i̯o *berete-i̯o. For the phonetics compare respectively the preverbs no and do (*dī) in leniting relative clauses from *nu-i̯o *dī-i̯o, and the participle -the < *-tii̯o-. But failing any apparent syntactic motivation for the generalization of relative forms in all contexts in these persons, such a line of speculation is probably to be rejected.

§6. For the 2 sg. absolute and conjunct biri bir Meid prefers (p. 56) to reconstruct *bheresi *bheres, to which Thurneysen OIGr. §560, 562 also leans. In Celtic Vb. 140 I expressed myself for a Celtic 2 sg. conjunct ending -ī < *-ei, cognate with Lith. -i, refl. -ie-s and Gk. -ει[s], thus basically following Meillet and Pedersen. The phonological reflex of, e.g., Celtic 2 sg. *ber-ī would be regularly OIr. cjt. ·bir. The OIr. abs. biri is to be explained in the same fashion as 1 sg. abs. biru beside cjt. ·biur, i.e., as fundamentally a morphological reflex of the same preform; cf. the remarks of Meid quoted above. The morphological restoration of OIr. final -u and -i in these persons of the (new) thematic absolute flexion is comparable to the restoration of gen. sg. -āī of ā- stem nouns in archaizing republican Latin beside the regular phonological reflex -ae of the same sequence. Meid may well be correct in

suggesting (p. 52, building on H. Wagner, Verbum 219-222) the immediate source of Old Irish abs. -u, -i to be the respective conjunct forms of the i-verbs, where -(i)u, -i < Celt. -iiū, *-iiī would be regularly preserved.

The derivation of the 2 sg. from -ī appears more likely than -es(i) primarily on morphological grounds. (Phonologically, *-es(i) is possible, but not absolutely certain, whereas *-ei > -ī presents no phonological problem.) Even if there is comparative evidence for postulating a thematic paradigm *-ō *-es(i) *-et(i), the reconstruction breaks down in the athematic paradigm, particularly in the s- and t-preterites derived from the sigmatic aorist. For the latter we must assume Common Celtic paradigms, with the stem final generalized from the 3 sg., as follows (cf. Celtic Verb §§13-14):

-ass-ū			-t-ū		
-ass-ī			-t-ī		
-ass(i)	<	-as-t(i)	-t(i)	<	-(R)s-t(i).

That the creation of these paradigms is of Common Celtic date follows from the ultimate identity of their reflexes in Brittonic and Goidelic, cf.

OIr.	·carus	MW	kereis	OIr.	·biurt	MW	ceint
	·carais		kereis-t		·birt		
	·car				·bert		cant.

The Welsh 1 sg. forms show vowel affection from final -$\bar{i}$ < -$\ddot{\bar{u}}$ < -$\bar{u}$, significantly the only place in Brittonic where the old 1 sg. -$\bar{u}$ < IE -$\bar{o}$ is preserved; 2 sg. -eis-t is from -assi (> -eis) plus a secondarily suffixed 2 sg. pronoun. Were the original 2 sg. ending Celtic -es(i)--intervocalic -s- was not lost in Common Celtic--the Welsh 2 sg. forms could not be readily explained. Nor is a paradigm -ass-$\bar{u}$ -ass-es(i) -ass-(i), -t-$\bar{u}$ -t-es(i) -t-(i), with thematic 2 sg. but athematic 3 sg., at all plausible.

The same productive Celtic athematic (or semi-athematic) paradigm as in the s- and t-preterites (and s-subjunctive) is found in the substantive verb in Old Irish (IE *st$\bar{a}$-):

·táu	<	*tā-$\bar{u}$
·taí		*tā-$\bar{i}$
·tá abs. táith-		*tā-t(i).

The assumption of any other ending (*tā-es, *tā-esi, *tā-s, *tā-si) must be excluded on phonological grounds; cf. also OIGr. §560.

For these reasons we will continue to assume a basic Celtic

thematic 2 sg. -ī < -ei. It thus continues the bare thematic vowel (i.e., a desinence zero) with the generalization of the particle -i, exactly as in Greek -ει-ς, Lith. -i, and Slavic -si, -ъi from a contamination of athematic -sь < *-si and thematic *-i < *-ei.

§7. Such a reconstruction of the 2 sg. places Celtic squarely in the tradition of a basic thematic paradigm

-o-ŗo	>	-ō
-e(i)		-ē(i)
-e		-e,

exemplified most clearly by Greek. It is in this light that we must approach the question of the formation of the 3 sg. in Celtic.

We have seen in previous chapters that the Greek thematic 3 sg. present -ει indicates that the traditional reconstruction *-eti cannot represent an obligatory Indo-European form. In view of Common Greek *Fέχει (Pamph. Fεχετō) we must recognize that Ind. váhati (Av. vazaiti), Lat. uehit, and Goth. -wigiþ represent parallel but at least partially independent creations of a new inflexional type. This is particularly plausible in Indo-Iranian, where the thematic

injunctive surviving in both dialects shows that secondary -at < *-et was the basic 3 sg. thematic ending of the common language, and -ati only an optional variant independently generalized in each.

Going further back in time, the history of thematic forms with zero-ending (i.e., the bare thematic vowel) acquiring a final -t as a redundant mark of the 3 sg. function shows that an Indo-Iranian 3 sg. -at, or 'Indo-European' *-et can be explained as having arisen from an earlier I-Ir. -a, or IE *-e. Cf. especially ch. VII above, on the types (a)vidat = (ἐ)Fιδε, or Hitt. duwarnit. The earlier Indo-Iranian 3 sg. -a, IE *-e, was finally shown to be still attested, in the first member of compounds of the type Ved. trasá-dasyu-, Av. tarə̊.tbaešah-, and Gk. ἀρχέ-κακος; cf. ch. V §8-11 above.

We can only posit for Indo-European what cannot have been independently developed in the daughter languages; hence the well-known speciousness of equations like Gk. γόνος : Skt. jánaḥ, or Skt. bhr̥taḥ : OIr. breth. It is the presence of Gk. οἰστός which deprives the latter of probative force for reconstructing an IE *bhr̥tós, just as it is Gk. -ει which deprives the equation I-Ir. -ati ; Lat. -it : Goth. -iþ of probative force for reconstructing an IE thematic 3 sg. *-eti. Cf. on οἰστός Meillet, Festschr. Kretschmer (1926) 140-141: a landmark in historical linguistic methodology.

Even if we find 3 sg. abs. berith (berid) in Old Irish (cf. also

OW. retit 'runs' : OIr. rethid), and can refer it to a *bhereti, this is no guarantee that such a form could not have been created in Celtic times. Just so bharati was created in Indo-Iranian times, on the evidence not only of Gk. φέρει, but also and more clearly of the composition forms Ved. bharad°, Av. barat° < *bhara° = Gk. φερέ-(ϝοικος). From the strictly comparative point of view the oldest form of the 3 sg. in Indo-European thus is *bhere; and it is this form which we propose to see in the 3 sg. conjunct ·beir.

§8. The former presence of a -t in the 3 sg. conjunct ·beir (cf. 2 sg. ipv. beir < *bhera) has been hitherto universally inferred from the shape of the conjunct 3 pl. and absolute 3 sg. and pl., which seem to form a pattern:

cjt.	·beir	·berat	<	*-et	*-ont
abs.	berith	berait		*-eti	*-onti.

But the secondary ending -t is attested directly only in the various athematic types where it has been fused with the preceding consonant or morphologically maintained:

pres.	·tét	téit	<	*ten-t	*ten-ti
s-subj.	·té	téis	<	*(s)teigh-s-t	*(s)teigh-s-ti
t-pret.	·bert	birt	<	*bher-s-t	*bher-s-ti.

Compare what was noted earlier on the original locus of the primary/secondary (Old Irish absolute/conjunct) opposition in the athematic conjugation.

OIr. téit, ·tét goes back to *ten-t(i), despite Szemerenyi, Syncope 190 n.4. His assumption of an irregular development of *tegid > téit 'in a form of great frequency' is unlikely, since the absolute is in Irish almost always less frequent than the conjunct, and the conjunct *tëig / tëγ'/ which his theory requires could not give ·tét. Nor could his theory account for the 3 sg. imperative tét; the latter must be a genuine archaism, since there is no model on which it could be created analogically at the time of a putative development *tẽgid > tẽit.

On the other hand, just as in Slavic, it is phonologically perfectly plausible that the thematic 3 sg. was always simply -e, and thus identical with the 2 sg. ipv. -e. There is no way of proving the former presence of a *-t in this person in Celtic; there are no certain thematic 3 sg. present verb forms in Gaulish or Celtiberian (cf. Meid 79-88), and there is no evidence either way from Old Irish lenition, since neither 2 sg. imperative nor 3 sg.

non-imperative lenites. The desinence in this case would be identical with that of the Common Celtic 3 sg. perfect -e; cf. Gaul. δεδε 'gave', OIr. ·cechain 'he sang' < *kekane beside 3 sg. present conjunct ·cain < *kane. If this is admitted, then the absolute/conjunct opposition would be rather

cjt.	*-e	*-ont
abs.	*-eti	*-onti,

a situation which strikingly recalls that of Old Russian

vez-e	vez-u
vez-etь	vez-utь.

A decision does not at first sight seem to be possible.

§9. It is the special relative form of the 3 sg. which permits a decision in favor of the second solution, i.e. a basic 3 sg. *-e, not *-et. As noted earlier, the special relative verb forms of Old Irish reflect the enclisis of *io onto the absolute ending, as in 1 pl. -m(a)e < *-masi-io, 3 pl. -t(a)e < *-onti-io, the latter confirmed by Gaul. dugiontio. The same

should be expected to hold for the 3 sg.; and indeed in certain of the athematic formations we have precisely the reflex expected:

téit	'goes'	<	*ten-ti	:	rel.	téte	<	*tenti-i̯o
birt	'bore'	<	*ber-s-ti	:	rel.	berte	<	*bersti-i̯o.

The Old Irish suffixless preterite, comprising reduplicated and long vowel forms, goes back to the Indo-European perfect. The original 3 sg. ending was *-e (λέλοιπε), Celtic -e as attested in Gaul. δεδε 'gave'. Absolute and conjunct endings were here not distinguished, cf. OIGr. §698, hence the regular phonological reflex of 3 sg. rel. -e-i̯o as OIr. -e:

luid	'went'	<	*lud-e	:	rel.	luide	<	*lude-i̯o
gíuil	'stuck'	<	*gegl-e	:	rel.	gíulæ	<	*gegle-i̯o
gáid	'prayed'	<	*gād-e	:	rel.	gáde	<	*gāde-i̯o.

For luid as an old unreduplicated perfect with generalized zero-grade root (like ro·fitir) cf. ch. IV §8 above. Phonologically the same treatment recurs in the Old Irish preverbs in relative clause are- < *are-i̯o, imbe- < *imbe-i̯o (likewise OW. emmi-, cf. Lewis-Pedersen, CCG Suppl. 12), inde- < *inde-i̯o, cf. Celtica 6.25. Old

Welsh emmi- has -i for -yd̯ < -iio or -eio, on which cf. Jackson, LHEB 426-7. I prefer to assume with Thurneysen, OIGr. §78.2 that prevocalic -ei was raised to -ii- in all of Celtic, such that -eio and -iio would be treated alike in Welsh. The same conclusion is afforded by the Middle Welsh 2 sg. pres. -y(d̯) < -ii-ĭ < -ii-ei (Jackson, loc. cit.), from earlier *-eiei. That the Celtic i-verbs are from IE *-eie/o- (Skt. -aya-) rather than Meillet's -io-/-ĭ- has been shown by my student Gregory Nagy in his 1966 Harvard dissertation (§1.3), forthcoming in the HSCP monograph series.

The Early Welsh evidence is particularly instructive; we have the relative form of bot 'to be' in yssyd (d = d̯) < *esti-io, which shows that OIr. 3 sg. rel. as of the copula has undergone apocope from an earlier *ase, *ese, the expected Irish reflex of *esti-io.

But the archaic Welsh 3 sg. relative ending -yd also occurs with inherited thematic verbs as well. Cf. especially D. Simon Evans, MWGr. §129,4; Morris-Jones, WGr. 323; Lewis-Pedersen, CCG 280. Examples are ni glivit 'that hears not' a uedyd 'that rule', ny wneyd gwir 'he who does not do justice', and na welyd 'that he sees not'.

§10. The last form na welyd from the verb gwelet 'to see' is decisive; for it can be exactly equated with the Old Irish

relative form of the substantive verb file, fele 'which is'. Both the Irish and the Welsh forms go back to a Common Celtic thematic present 3 sg. special relative *uele-io.

Such a 3 sg. -e-io is paradigmatically on a level with the 3 pl. -onti-io, and thus completely confirms the suggestion above that the thematic paradigm was originally outside the opposition absolute/conjunct, i.e. primary/secondary. At the same time it shows that the basic 3 sg. non-relative form of the thematic paradigm was simply *-e, to which the relative particle *io was affixed, exactly as in the suffixless preterite from the Indo-European perfect.

It is noteworthy that the relative form file, fele shows the same tendency to apocope to fil, fel which occurred in the copula : *ase (*ese) > as. Cf. OIGr. §780.2. Note also the same development directly attested in the 3 pl. relative of the copula: OIr. always ata (< *senti-io) in Wb., but also at in the later Ml.

Exactly like OIr. di·coissin 'there is/are' (OIGr. §782, cf. Crith Gablach ed. Binchy, 321 note), the non-relative fil (ní·fil 'there is not', responsive fil 'there is', cf. OIGr. §780) is a 3 sg. impersonal transitive *uele, literally 'it seas', used idiomatically in Irish in a fashion comparable to Germ. es gibt. Brittonic preserves the literal meaning, in MW gwelet etc., still today the normal verb 'to see'. Both Thurneysen (loc. cit.) and Pedersen (VKG 2.434) take fil as an old 2 sg. ipv. 'see! voilà'.

But if the form were imperative, by the rules of Old Irish syntax we would expect the negation to be *na·fil, rather than ní·fil (Mn.Ir. níl), and we would also expect such an old compound as do·fil 'is nigh, approaches' (transitive impersonal with the accusative) to be protontonic *tóil in the absence of an infixed pronoun. Nor is a relative imperative (file) syntactically possible. Fil, file, and do·fil are in all respects syntactically 3 sg. forms; we must take their evidence at face value: 3 sg. *u̯elc.

Since the relative form file contains 'primary' or absolute' *u̯ele plus i̯o, parallel to 3 pl. -te < *-onti plus i̯o, it is to be expected that non-relative fil < *u̯ele would appear in constructions which would require the absolute form of the verb in Old Irish. And indeed we have cases like Wb. $11^{d}2$ fil ní de as fír 'there is something thereof which is true', Cambrai homily fil-us (with proleptic pronoun) daneu tre cenéle martre atta lógmara 'there are, moreover, three kinds of martyrdom that are precious', significantly characterized by Thurneysen, loc. cit., as occurring 'in archaic texts and poetry'. From the point of view of classical Old Irish grammar we have a formally 'conjunct' verb functioning as 'absolute' as well. That is to say that in this single isolated thematic 3 sg. verb the differentiation into absolute and conjunct flexion has not taken place.

§11. We are thus led to reconstruct for Celtic a thematic paradigm of the following shape:

berū	beromo
berī	berete
bere	beront,

functioning both as 'absolute' and 'conjunct', i.e. both in sentence initial and sentence final position. Beside this paradigm, however, there existed an athematic paradigm, with an inherited opposition of primary and secondary endings; the former restricted to the marked, emphatic sentence initial position (as a redundant feature), and the latter appearing otherwise:

abs.	-mi	-mesi	cjt.	-m	-mo
	-si	-te-		-s	-te
	-ti	-onti		-t	-ont

This paradigm with its absolute/conjunct opposition was found not only in the athematic root presents (both in final consonant and final long vowel, on which see below)--which were probably quite numerous in Common Celtic, cf. Celtic Verb 141, 185--but in the forms derived from the sigmatic aorist: s-subjunctive, t-preterite,

and s-preterite (the latter being the productive preterite for all derived verbs). It was furthermore probably characteristic not only of the presents in -na-, but also of a significant nucleus of presents in -a and -i-, the two productive ('weak') formations: those from the Indo-European athematic factitive and stative suffixes *-a- and *-e-.

The impetus toward the creation of a parallel absolute/conjunct opposition in the thematic conjugation was therefore strong; and the channel was afforded by the 3 pl., where the athematic conjunct was identical with the thematic ending. In the plural the absolute endings were taken over, whence *beromesi etc. In the 1 and 2 sg. the old endings underwent a morphological differentiation, whence OIr. biru ~ 'biur, biri ~ 'bir. And in the 3 sg., the athematic ending -ti was simply affixed directly to the earlier zero-ending with the stem vowel -e : *beré + ti, whence OIr. berith. Such a process is directly comparable to the creation of 1 sg. bharā-mi in Indo-Iranian, by the affixation of the athematic ending -mi to the earlier thematic ending, 1 sg. bharā. As will appear below, it is likewise identical with the creation of a 3 sg. -etъ from earlier -e plus athematic -tъ in an eastern ('Russian') dialect area of Common Slavic.

The 3 sg. relative form, however, did not undergo renewal by -ti: the form remained *bere-io, probably because the synchronic

structure of the form and its deviation from non-relative *bere had been obscured by the Common Celtic raising of -eio to -iio (v. supra): thus 3 sg. rel. *beriio. In the 3 pl., it is significant that both secondary -ont + io and primary -onti + io would yield Celtic -ontiio. The resulting paradigm, giving the basic conjunct form of the first and second persons and the fully differentiated third persons--which probably corresponds to a real historical stage--is the following:

sg.	1		berũ	
	2		berĩ	
	3	cjt.	bere	
		abs.	bereti	
		rel.	beriio	
pl.			beromo	
			berete	
			beront	
			berontí	
			berontiio.	

With the exception of the 3 sg. relative, the forms are continued intact in the Old Irish paradigm of berid; the 3 sg. rel. is found in the unique and paradigmatically isolated file (fele) < *ueliio, *uele-io. The regular reflex of *beriio, OIr. *bere, and all other thematic 3 sg. relative forms, underwent an assimilation to the form of the relative of the copula, OIr. as, whence OIr. beres etc.

That the copula served as model for the regular 3 sg. rel. has

been assumed both by Pedersen, VKG 2.236 and Thurneysen, OIGr. §567, following Sarauw, Irske Studier §111. It is particularly plausible in view of the numerical preponderance of rel. as in Old Irish. Thus in the early VIIIth century legal text Crith Gablach, 606 printed lines in Binchy's edition, there are 12 instances of 3 sg. special relative forms of simple verbs, as against 21 examples of as. (I count the repetitions of gellas and saiges as a single instance, likewise the two examples of oldaas 'than is'.)

The creation of beres (similarly sóeras, léices, gaibes, benas) from as (earlier *es?) must postdate the apocope of the latter from *ase, *ese; it may thus be relatively late in Irish prehistory. Finally the contrast between non-relative is with palatalized final and relative as with non-palatalized final was imitated by the two Old Irish categories with a suffix -s(s)-, the s-preterite, s-subjunctive, and reduplicated s-future: 3 sg. pret. non-rel. sóerais, rel. sóeras; 3 sg. subj. non-rel. téis, rel. tías; 3 sg. fut. non-rel. gigis, rel. giges. Cf. OIGr. §567.

§12. We may now turn our attention briefly to the athematic paradigms in Celtic. The weak verbs in -a- and -i-, as noted earlier, represent a compromise inflexion, as shown particularly

in the variation of the 1 sg.: marbaim ~ marbu, ráidim ~ ráidiu, with the characteristic spread of athematic -m at the expense of thematic -u. In the case of the a-verbs it is possible that the original athematic paradigm of the factitives (suffix *-ā- : Hitt. -ahh-) was conflated with that of the denominatives in -ā-i̯e/o-, resulting in -āi̯ū -āi̯ī -āt(i). Alternatively, and perhaps more plausibly, we may assume the suffixation of 1 sg. -ū, 2 sg. -ī directly on the athematic stem -ā- of the 3 sg.: -ā-ū -ā-ī -ā-t(i), paralleling the s-preterite, s-subjunctive, and t-preterite, as well as the monosyllabic roots in final long vowel like ·táu ·taí ·tá(ith-); cf. ch. X §15 above. Athematic 3 sg. -āt(i) is assured by OIr. abs. -aith (-aid), cjt. -a, agreeing with archaic Brittonic forms like OBret. crihot, fleriot with -ot < -āti, cf. Celtic Verb 154 n. 12.

On the other hand the attested OIr. 2 sg. abs. = cjt. -(a)í is quite obscure. It is conceivably a reflex of athematic (absolute) *-ā-si, but phonological parallels are lacking. Cf. 2 sg. -n(a)i in the na-verbs, perhaps from *-na-si.

For the i-verbs we must reckon with a genuine merger of two paradigms,

-ei̯ū	>	-ii̯ū	and	-āmi	> -īmi
-ei̯ī		-ii̯ī		-āsi	-īsi
-ei̯e		-ii̯e		-āti	-īti.

To the former correspond the Vedic iteratives and denominatives in -aya-, and to the latter the statives in -ē- appearing with secondary ending in the Greek passive-intransitive aorist in -η-, and with primary ending in the Germanic third class of weak verbs, OHG 1 sg. habêm, sagêm, folgêm < *-ē-mi, as now shown by Polomé in the Festschrift for J. Pokorny (forthcoming). The phonological reflexes merged in the 2 and 3 sg.: cjt. ·rádi ·rádi, abs. rádi rádid from *rōdeie/o- like ·ruidi etc. from *rudhē- : Lat. rubēre, OHG roten, OCS rędĕti sę. In the 1 sg., both -iiū from -eiō and -īmi from -ēmí must be assumed for Common Celtic; the first for archaic Irish forms like áiliu beside á(i)lim (cf. LL 1634 where the latter glosses the former), and the second for the archaic Middle and Old Welsh forms in 1 sg. -if < -īmi (cf. 3 sg. -it < -īti).

A mixed athematic (3 sg. cjt.) and thematic (all other persons) paradigm appears in the monosyllabic roots in final -i, like ·gnfu ·gní ·gní; cf. ·táu ·taí ·tá above.

§13. There are other athematic paradigms in Celtic, however, which attest traces of the 'classical' pattern *-m(i) *-s(i) *-t(i): the absolute forms of the copula, the -na- verbs (cl. BIV; the -nu- verbs of cl. BV are too poorly represented to have any independent value), and the ā-subjunctive.

The absolute forms of the copula are sg. 1 *am* 2 *at* 3 *is*; the 1 and 3 sg. reflect **es-mi*, **es-ti*, cf. also MW 3 sg. *ys* < **esti*, relative *yssyd* < **esti-io*. The 2 sg. evidently shows a suffixed personal pronoun of the second person, as does Mid. Welsh *wyt*, cf. Thurneysen, *OIGr.* §792. The reason for this is not hard to find. If Celtic had had the analogical form **es-si*, it would have merged with the 3 sg. **essi* < **esti*, and been thus liable to reformation; if the original form had been **esi* with simplification of the geminate, the loss of intervocalic *-s-* would have resulted in **eĭ*, **ei*, with neither root nor desinence easily discernible. The second alternative appears more likely, and it is probable that it was this **ei* which was suffixed by the pronoun form *-t* to clarify the form.

The *-na-* presents have generalized the zero-grade *-na-* of the IE pattern *-nā/nə-*, cf. *OIGr.* §§551, 594. The paradigm in the singular is

abs.	*crenaim*	cjt.	*·crenaim*
	cren(a)i		*·cren(a)i*
	crenaid 'buys'		*·cren.*

The absolute paradigm may be derived from the normal athematic primary endings:

*k^{w}ri-na-mi

*k^{w}ri-na-si

*k^{w}ri-na-ti.

Cf. Pedersen, VKG 2.342 (otherwise Thurneysen OIGr. 365), and for the phonetics of the 2 sg., 1 pl. abs. -mi < *-masi or *-mosi. But the 2 sg. remains not entirely certain.

The conjunct paradigm might be expected to be

*k^{w}ri-na-m

*k^{w}ri-na-s

*k^{w}ri-na-t,

which is assured for the 3 sg. ·cren. The 1 and 2 sg. cjt. show the absolute endings, which is not surprising since *k^{w}ri-na-m, *k^{w}ri-na-s would have regularly given also *·cren, thereby eliminating all distinction of person in the paradigm of the singular. We have in fact one indication that such undercharacterized forms did once exist. The universal tendency in the Irish verb, beginning already in the Old Irish period, is toward the spread of the 1 sg. -im, both in the absolute and conjunct, at the expense of the ending with -u or 'u-coloring'. The single apparent example of the replacement going in the opposite direction is the

1 sg. for·fiun (Sg. 143^{a}2) to the na-verb for·fen 'accomplishes'. The anomaly may be removed if we assume that the form analogically replaced was not *for·fenaim, but *for·fen < 1 sg. *-na-m.

§14. In the ā-subjunctive the paradigm is as follows (sg.):

abs.	bera	cjt.	·ber
	ber(a)e		·ber(a)e
	beraid		·bera.

Outside of the 3 sg. forms, clearly reflecting *-ā-ti *-ā-t, the rest of the paradigm is quite obscure. The 1 sg. conjunct ·ber is normally taken as reflecting *bher-ā-m, and thus identical with Lat. feram. Compare also the f- future 1 sg. cjt. -ub, likewise built on the ā-subjunctive (sign *-fā- < -su-ā-), which shows zero-ending with analogical u-coloring: see Ériu 20.69-70 (1966). It is probable that final *-ām (Celtic *-ān) was lost, perhaps via shortening of the vowel, on the evidence of the feminine infixed pronouns -e-, -(s)e- < *iyān *siyān: see Lochlann 3.286-7 (1965), where the macron over -ān was inadvertently omitted. But if ·ber reflects *bheram, the 1 sg. abs. bera (and future 1 sg. abs., type léicfea) are of analogical origin, parallel to that of biru, biri.

Absolute and conjunct are identical in 2 sg.; Thurneysen takes the ending -(a)e as the regular reflex of -ā + ī (in stressed monosyllables > OIr. -aí), but parallels are lacking. Here as well a refashioning has evidently taken place, and the details are unclear. The impetus to such refashioning may well have been the fact that 2 sg. *bher-ā-s would have yielded *·bera, in form identical with the 3 sg.

The conjunct forms are alone historically justified in this paradigm; the ā-subjunctive is historically an optative, as shown by Trubetzkoy, Festschrift Kretschmer (1926) 267-274 and Benveniste, BSL 47.11-20 (1951), and the secondary endings alone proper to the optative are amply attested in Osco-Umbrian, e.g. Osc. pútíad pútíans 'possit, possint' heriiad 'uolet', fakiiad 'faciat'; 3 sg. -d is perhaps indirectly attested in OLat. (Forum insc.) kapia·dotau[, where the final -d of *kapiad is graphemically 'absorbed' by the initial d- of the following word (geminate consonants are not noted in archaic Latin). The original secondary ending -d was replaced by the primary -t in the later history of Latin, as in all other paradigms where it occurred: cf. OLat. siēd > siet, fēced > fēcit, esed > erit.

Just as in the thematic present indicative, the Old Irish ā-subjunctive furnishes another example of the analogical creation of an opposition of absolute and conjunct endings, the conjunct

endings alone being historically justified.

The Celtic mediopassive will be taken up in the following chapter, together with the comparable forms of other traditions: Italic, Anatolian, and Tocharian.

XIII. The mediopassive in -r

§1. It is appropriate to begin a discussion of these forms, found principally in Anatolian, Italic, Celtic, and Tocharian, but also in Armenian and Phrygian, with the facts of the Anatolian languages. These have already been discussed in ch. V §13 above, and it will be sufficient to recall them briefly.

In Hittite we have the endings

-ha(ri)	-waštа(ti)
-ta(ti) (-ri)	-ttuma(ri)
-(t)a(ri)	-antа(ri),

with the particle -ri (and -ti in 2 sg. and 1 pl.) an optional component. The unique Palaic middle form kīrar beside Hitt. kitta(ri) shows that the -i of -ri is secondary, and the basic form of the particle is simply -r. That the element -r(i) is a particle which has nothing to do with the middle voice--and 'mediopassive in -r' a convenient misnomer--follows not only from its optional character in the Hittite present, but also from its complete absence from the Hittite preterite middle, OHitt. 3 sg. -(t)ati. Similarly in Tocharian, -r is found in the present but not in the preterite middle. Neither Luvian nor Palaic shows any trace of -ti, though the persons where they appear in Hittite are unattested.

The secondary character of the -i or -ri is likewise borne out

by Luv. 2 pl. niš dadduwar parallel to niš aztuwari 'do not eat!', and conceivably ziyar beside ziyari, cf. Otten, Gramm. Luv. 47. Luv. -tuwa beside Hitt. -ttuma- shows the characteristic Anatolian m : w alternation after u, cf. Ivanov, Obšč. sist. 159 n. 86.

Luvian has evidently made obligatory the particle -r(i) in the mediopassive: 3 sg. -(t)ari, 3 pl. -antari. In this language, in contrast to Hittite, the -r(i) is a genuine morpheme of the mediopassive. The result of this development--clearly an innovation--is that the same endings without the particle -r(i) are reinterpreted as active in voice. Precisely the same restructuring of *-to as an active ending by opposition to the new middle *-tor took place in Celtic as well, as will be shown in full below. One may conjecture that the Venetic forms doto, vhagsto, donasto reflect a similar restructuring middle → active, in view of the presence of r- forms in that language; cf., however, Lejeune, BSL 61.191-208 (1966). It is thus that we can explain the Luvian active preterite, 3 sg. -ta, 3 pl. -anta, 1 sg. -ha (and athematic -atta, -anta, -ahha), which contain the older middle endings *-to, *-onto, *- o without -r(i).

The generalization of the ending -ta in the Luvian 3 sg. pret. active, i.e. *-to rather than *-o, as opposed to the -ari ~ -tari alternation preserved in the mediopassive (ayari ~ halti-ttari) can be explained by the necessity of avoiding homophony with the Luvian 2 sg. imperative -a (piya, pipiššа).

§2. From the joint evidence of Hitt. -(t)a ~ -(t)ari, -anta ~

antari, Pal. -tar, and Luv. -(t)ari, -antari, we must conclude that the basic Anatolian endings were -(t)a, -anta, which could be optionally augmented by a particle -r. These endings may be reconstructed as IE *-(t)o, *-onto, and except for the optional particle, itself unconnected with the middle, are identical with the corresponding endings of Indo-Iranian and Greek. The possibility of endings *-(t)r$_o$, *-ontr$_o$, envisaged by Kuryłowicz, Infl. Cat. 69, must be rejected.

By the same token there is no evidence which would go to equate the element -r(i) of the Anatolian languages with the ending *-ro of the 3 pl. middle in Indo-Iranian, nor with the 3 pl. active ending appearing in Ind. -ur, Iran. -sr$\partial\check{s}$, -ar∂, Hitt. -er, Lat. -ēre, which Kuryłowicz suggests, loc. cit. His view of competing 3 pl. endings -nto and -r(o) whence -ntor(o) entailing 3 sg. -to and -r(o) whence -tor(o) is subject to the same theoretical objections as his derivation of 3 sg. -to from -nto discussed above, ch. III §3, and must therefore be rejected.

Anatolian in any case shows no evidence for a 3 pl. middle *-ro. It seems perfectly possible that the creation of a 3 pl. mid. *-ro is on a level with the creation of -nto, i.e. goes back to the proportion -t(or zero) : -o = nt : -nto = -r : -ro, and the active 3 pl. ending was basic; the form was alternatively -r (-r$_e$) or -nt. Cf. ch. II §21 above.

It is noteworthy that the postulation of *-tor, i.e. *-(t)o + r, agrees with isolated data like Phrygian αδδακετορ, αββερετορ, as well as Celtic forms like Old Welsh -tor, (on which v. infra, §13). The Phrygian forms do not appear to differ semantically from the ostensibly

active forms ἀδδωκεν, ἀββερεν, for whatever reason, which permits one to maintain the derivation of Armenian 3 sg. impf. active berēr from *bheretor (Meillet, Esquisse² 127). The vocalism of Arm. berēr, post-class. beriwr presupposes a lost -t-, pace Ivanov, Obšč. sist. 124.

§3. Italic presents at first sight a bewildering variety of forms. From the alternate endings observable within Latin itself, classical and dialectal, as well as the partly divergent forms of Oscan and Umbrian, it is virtually certain that a number of the attested forms must represent innovations.

In Latin, where of course we have the fullest information, the thematic paradigm is

-ŏ̄r	-imur
-eris, -ere	-iminī
-itur	-untur

The archaic form nancitor (Fest.) shows the earlier form of classical -(n)tur. The original quantity of 1 sg. -ŏ̄r is preserved in archaic metrical texts; for examples cf. Meillet-Vendryes, Traité² §214. Variant forms of the second person are dial. sg. (subj.) ūtārus, fīgārus, patiārus. Beside -iminī cf. the archaic 2 and 3 sg. imperative type antestā-minō, fru-iminō.

§4. In Oscan and Umbrian we have (apparently) only third persons or impersonal forms attested. Umbrian shows an opposition between primary and secondary ending, the latter in the ā-subjunctive: prim. 3 sg. herter 'oportet', but sec. 3 pl. emantur, terkantur '(pro)videant' in the ā-subjunctive.

Oscan has generalized the vocalism -(n)ter, e.g. 3 sg. ind. sakarater 'sacratur', 3 pl. karanter 'vescuntur', 3 sg. subj. sak[ar]ahíter 'sacrificetur', Pael. 3 sg. impf. subj. upsaseter 'fieret, operaretur'. The ending -(n)tar in krustatar, kaispatar (both of unknown meaning), taken as 3 pl. ipv. pass. by Vetter, is obscure.

Oscan and Umbrian preserve a notably archaic feature, as against Latin, in that the 3 sg. mediopassive ending in -r occurs both with and without -t-, just as in Anatolian (and Celtic). The Umbrian subjunctive corresponding to Lat. ferātur is ferar; the Oscan correspondent of Lat. -ētur is -ir in loufir 'vel': Lat. lubet, libet. And I suggest the Umbrian correspondent of Lat. ītur is ier (v. infra).

This form in -r without -t- was clearly productive in Oscan and Umbrian, since it is found also in the perfectum with Italic-innovated suffixes: Osc. 3 sg. perf. subj. pass. sakrafír, (-f-), lamatir (-t-), Umb. herifi[r] 'oportuerit', cahefi[r] 'concept- sit'. In Umbr. couortuso[r] 'reversum erit', benuso[r] 'ventum erit' we appear to have fut. perf. passives; but the vocalism -o[r] and the absence of rhotacism in -us- (cf. 3 pl. fut. perf. -urent) are obscure. Such forms as these are not in themselves old, but they attest the antiquity and productivity in Italic of forms with a zero 3 sg. person-marker (after vocalic stem) and a voice-sign -r.

§5. We have finally in both Oscan and Umbrian 3 sg. passive imperative forms characterized by an -m-: Osc. censamur 'censamino, censetor', Umbrian persnimu persnih(i)mu 'precamino, precator'. Umb. arsmahamo armamu 'ordinamino', caterahamu cateramu 'congregamino' have been taken as 2 pl. ipv. forms ('ordinamini, congregamini' Vetter), but they show the identical ending, and are better taken as basically impersonal 3 sg. forms, though combinable with a vocative plural (ikuvinu Ib 20, iouinur VIb 56 'Iguvini') because of the loose syntactic connection. (The ostensibly reduplicated plural persni(hi)mumo is an analogical development, after -tuto = Lat. -tōte, though the final vowel is obscure.)

It is doubtful whether the Umbrian forms have lost an -r; more likely the Oscan form was analogically provided with -r, in a manner parallel to the creation of the Latin imperative passive type legitor leguntor < -(n)tō + r.

§6. These Osco-Umbrian forms in *-mo are directly parallel both in function and in provenience to the archaic Latin 2 and 3 sg. imperative mediopassive in -minō < *-mnō. The latter are well attested in archaic Latin, beginning with si in ius uocat, ito; ni it, antestamino in the XII Tables (I 1). Ianum Iouemque uino praefamino, sic dicito precedes the ancient prayer to Mars in Cato, De agri cult. 141.2. The form fruimino is attested on an inscription of 117 B.C., (CIL I² 584.32); Plautus has prōgredīminō Pseud. 859, arbitrāminō Epid. 695; famino 'dicito' Paul. Fest. 77.

The form in -minō was in archaic Latin the deponent counterpart of the fut. ipv. -tō, as appears from the above passages of the XII Tables and Cato, as well as Plaut., Pseud. 853-4 quoquo hic spectabit, eo tu spectato simul; si quo hic gradietur, pariter progredimino (where one may note the clear correlation of both imperatives with future time). We have 3 sg. function in antestāminō, fruiminō, 2 sg. in praefāminō, prōgredĭminō, arbitrāminō, just as -to serves for both persons. But that -minō is an innovation follows from the preservation of archaic deponent future imperatives with the same -tō as the active: ūtitō Cato, De agri cult. 96.2, ūtuntō CIL I² 589 I 8, cf. Leumann-Hofmann 307. The imperative was originally outside the diathesis of voice.

The standard view is that 3 sg. -minō is built on 2 pl. -minī (Leumann-Hofmann 308, with references). But this scarcely explains the transfer of person, and the chronology indicates that -minō is already an archaism on the road to extinction in early Republican times. Rather it is 2 pl. -minī which is built on 2 and 3 sg. -minō, with an assimilation in 'concord' to the nominal -ī plural; the same trend toward overt concord is responsible for the creation of ipv. 2 pl. -tō-te. The original type was, e.g., *famino, Romani, syntactically entirely parallel to Umbrian armamu, Ikuvinu, remade to conform in concord as *famini, Romani. In the same fashion in the active, earlier *itato(d), Romani, exactly like Umbrian (Ib 22) etatu Ikuvinus, was affected in Latin with an overt plural sign -te to 2 pl. itatote, an innovation recalling Russ. pojdëmte. To explain the 2 pl. it is thus not necessary to have recourse either to an

ancient plural participle in *-mnoi (as if alumni should mean 2 pl. 'be nourished!') nor to the Greek infinitive in -μεναι, for which Italic parallels are wholly lacking.

§7. It is in the basic 3 sg., zero-person function that the syntactic point of entry of a nominal (participial) formation into the finite verbal paradigm should be sought. An ellipsis legimini (sc. estis) is only plausible if the basic ellipsis is *legimini (sc. sunt), and ultimately *legiminus (vel sim.) (sc. es, est); cf. Russ. (vy) pošli like (oni) pošli, (on) pošël, as well as colloquial ipv. pošël, pl. pošli 'begone!', as against OCS nasъ jasmь, jestъ, etc. This 3 sg. participial formation is found in the imperatives -minō < *-mno- and Osco-Umbrian -mo(r), -mu < *-mō. Both, as noted by Meillet-Vendryes, Traité² §530, can be compared with parallel forms of the Indo-European thematic verbal adjectives which were destined to become the present mediopassive participle, in a variety of languages: that in *-mno- of Iranian and Latin most clearly (M.-V. posed *-meno-) and that in *-mo- of Balto-Slavic and Luvian. On these two suffixes see Benveniste, BSL 34.5-21 (1933), which shows that the fundamental shape of the former is *-mno-, not *-meno-, and Hitt. et i.-eur. 27-32, demonstrating the identity of Luv. -(a)mma/i- and Lith. -amas, OCS -omъ, and the original subjective, internal value of *-mo-.

Whether the final of *-mnō and *-mō represents a petrified case form, or simply imitates that of ipv. -(n)tō < -(n)tōd, is uncertain,

but of secondary importance. It is noteworthy that there is no evidence in Latin for a final -d in -minō (Oscan generalized -r, and -d is in any case lost in Umbrian), which could indicate an ancient instrumental final -ō; its syntax would remain to determine.

§8. We may now turn to the explanation of the indicative paradigm of Latin, and the third persons of Oscan and Umbrian. The Lat. thematic 1 sg. -or (whence -or) may be directly derived from -ō + r < *-o-o + r. It is thus identical with the Hittite 1 sg. middle ending -ahha + r(i), save that Latin has generalized the final -r element as a sign of the middle, just as Luvian did in Anatolian. This thematic ending *-o-o-r > -or is found not only in Anatolian and Italic, but in Celtic and Tocharian as well: OIr. -ur < *-ōr < *-or, and WToch. -mar, EToch. -mār < *-m- + -or with the same intercalation of 1 sg. -m- that we can observe in Gk. -(μ)αι. It is the form *-o-or, *-or of these languages, save that the once optional final -r has become fixed everywhere but in Hittite, that preserves the 'Indo-European' form of the thematic middle 1 sg.; the two other dialect areas where such a formal category is found, Indo-Iranian and Greek, have both generalized the athematic form. The Gothic 1 sg. middle -ada repeats the 3 sg., and thus has no independent value.

The Latin modal stems in long vowel, the -ā- and -ē- subjunctives with active 1 sg. in -m, form the 1 sg. middle simply by replacing -m with -r, whence -ār (< -ar), *-ēr (> -er), imitating

thematic -ōr (> -or). The formation is probably not old, as is shown by Umbrian 3 sg. ferar like Lat. 1 sg. ferar. The indicatives in stem final -ā-, -ē- show -ōr (> -or): for, arbitror, vereor.

The Latin 1 pl. -(i)mur reflects *-(o)mo + r, i.e. the oldest form of the 1 pl. active, like Indo-Iranian -ma, archaic OIr. ·melom < *-o-mo, plus the same element -r. The same ending is found in Celtic, archaic OIr. ·dergemor, ·brudemor, and there is no reason to suppose that this ending ever replaced an earlier special middle ending in Italic and Celtic comparable to Gk. -με(σ)θα, Hitt. -wašta, Indo-Iran. *-madhi, or WToch. 1 pl. mid. pres. -mttär, pret. -mtte, EToch. -mtär, -mät.

The 2 sg. shows the forms -(e)ris and -(e)re; in Plautus, -(e)re is considerably more frequent than -(e)ris, and the basic relegation of -(e)re to the imperative function in Classical Latin as well indicates that it is the earlier form. Lat. -(e)ris is -(e)re plus the characteristic -s of the 2 sg. active, and thus an innovation parallel to Ind. -thās < -tha + as. Beside these endings we have dialectal -rus in ufarus, figarus, which shows the same -s. The ending must be related to the thematic *-e-so of Iran. -aha and Gk. -eo; it has been assumed both that *-e-so yielded -ere in Latin (Sommer Hdb. 494), and that -ere reflects an old apophonic form of the ending -e-se (Meillet-Vendryes §481); in the absence of clear parallels to support either view, as decision is difficult to reach. The ending -rus in any case attests the presence of the expected o-grade *-so in Italic.

It is noteworthy that the Italic 2 sg. *-so (and *-se?) does

not show the characteristic -r. This fact should be compared with the absence of -ri in the Hittite 2 sg. mid. -ta, -tati, (though -tani is attested) and with the absence of -r in the Old Irish deponent imperative 2 sg. -the, doubtless an older form than the 2 sg. indicative -ther.

The 2 pl. has been discussed above, in connection with the Osco-Umbrian mediopassive in *-mo. It is possible that the impetus to the creation of -mini (after -minō) in the 2 pl. deponent and passive function was that the earlier 2 pl. ending it replaced did not differ from the active form, i.e. was simply *-a-te, like the Old Irish 2 pl. indicative and imperative deponent cluinid, sechid like acc. 2 pl. berid.

§9. The reconstruction of the 3 sg. and 3 pl. deponent has always been problematic; cf. Leumann-Hofmann 306 with references, and most recently Kuryłowicz, Infl. Cat. 65, 69. Kuryłowicz offers two alternative explanations. The first (p. 65) is that the original coexistence in Italic (and Celtic) of 3 sg. *-o and *-to, 3 pl. *-ro and *-nto led to a proportion -o : -to = -r(o) : -ntr(o), thereby creating 3 pl. -ntr/-ntro; a second proportion -nt : -ntr(o) = -t : -tr(o) created 3 sg. -tr/-tro. Latin and Umbrian -(n)tur presumably reflect *-(n)tr, Osco-Umbrian (and Celtic) -(n)ter reflect *-(n)tro. The second (p. 69), essentially the view of Leumann-Hofmann as well, suggests conflation of the two 3 pl. endings *-nto and *-r(o) to *-nter(o), which then entails 3 sg. *-to and *-r(o) forming *-ror(o).

Both these explanations presuppose an analogical process plural → singular, which is unsatisfactory for the theoretical reasons discussed in ch. III §3 above. They also both presuppose the central role of a 3 sg. middle *-ro, whose existence can be documented only in one Indo-European tradition, namely Indo-Iranian (cf. §2 above). Considering further that we have no trace at all in Italic of any of the four endings *-o, *-to, *-ro, *-nto, and that the motivation for an optional elision in *-r(o) remains unexplained, it is fully justified to reject these explanations.

We have seen above that the Anatolian data require the postulation of *-(t)or, i.e. *-(t)o + r, and not *-(t)ro; it is a priori reasonable to seek the same form in Italic, as indeed 'die einfache Erklärung' of -tur (Leumann-Hofmann). The postulation of *tr or *-tro has been hitherto justified by appeal to the Old Irish data; but as we shall see below, the Old Irish forms (and especially Early Welsh -tor) must be also explained by *-tor, i.e. *-to + r.

In fact, while the change -tro or -tri > -ter is plausible in Umbrian, on the evidence of agar 'field' < *agro-, pacer 'propitius' < *pakri-, and tertie 'tertio loco' < *tritio-, it seems less certain that it can be invoked to explain Oscan -ter, where we have tristaamentud contrasting with Lat. testamentum, and doubtless trstus 'cestes' with -i- accidentally omitted after r, cf. Vetter ad 5C. Umb. okar ukar 'arx', ostensibly from *okri-, is likewise problematic.

Yet a more conclusive reason for rejecting a development *-tro > -ter to explain the Umbrian primary ending (generalized

in Oscan) is the existence in the Italic dialects of 3 sg. r-endings with and without -t-. It is those without -t- which represent the older layer of formation, and even if we could derive Umb. -ter from -tro, we cannot derive the -er of Umb. ier from *-ro. I take ier as pres. indic. rather than perf. subj. (so Buck, Vetter) in view of the parallel pres. indic. habe in the succeeding conditional clause: VIb 54 eetu ehesu poplu. nosue ier ehe esu poplu, sopir habe esme pople, portatu ulo. Vetter renders 'ito ex hoc populo. nisi itum sit (?) ex hoc populo, siquis (quem) capit in hoc populo, portato illuc.' But the two if-clauses are parallel, setting forth as it were the major and the minor premise, and we expect the same tense and mood in each. The present indicative in sopir habe is confirmed by the parallel (and older) text svepis habe in Ib 18, and there is no mark of the perfectum in ier. Umb. nosue ier...sopir habe...portatu is thus like Olat. (XII Tab.) si nox furtum faxit, si im occisit, iure caesus estō.

§10. We prefer therefore to take the Osco-Umbrian ending -(t)er at face value; it indicates an opposition of primary -(t)er : secondary -(t)or. Latin has generalized -tor; but it probably shows a trace of -er in the archaic deponent-passive third conjugation infinitive -ier of ūtier, fīgier, grŏssier. Cf. also Middle Welsh imperative pass. -er below, §13.

See Leumann-Hofmann 328, Sommer Hdb.^{2} 593. Thurneysen's comparison (in his 1879 Leipzig dissertation Über Herkunft u.

Bildung d. Verba auf -io 46) of uortie-r, agie-r with the Vedic absolutives -vṛ́tyā̆ (RV) -ajya (Sutr.) deserves serious consideration; v. infra on OIr. égthïar, §18. Cf. also the Hitt. 3 sg. middle -iya(ri), and ipv. 2 sg. act. -iya, mid. -iya-hhut(i), from *-iio(-ri). If we relate inf. -ier to the Vedic absolutive (gerund) -ya, it is also possible to relate the Lat. inf. -ī (agī, ūtī) to the -ī́ of the Ved. absolutive -tvī́ (older than -tvā́), taking the latter as -tu + -ī́. An original long vowel -Ī rather than diphthong *-ei would agree with OLat. pakari of the Duenos inscription, if rightly taken as a passive infinitive pācārī.

The vocalic alternation -(t)er/-(t)or, like that of 2 sg. *-se/-so, may well be inherited, in which case we should compare the Hittite facts noted in ch. V §3 and the conclusions in ch. VI §11 and VIII §5 above; otherwise -(t)er/-(t)or could be a morphological replacement of earlier prim. -(t)ori/sec. -(t)or, which would have merged after the loss of final -i.

We thus pose for the Italic mediopassive 3 sg. *-(t)o + r, 3 pl. *-onto + r, agreeing with Anatolian. Just as in Anatolian, there is no justification for presupposing the mediatory role of a putative 3 pl. *-ro.

§11. In Celtic, specifically Old Irish, we have to reckon with the fact that the deponent and the passive have undergone a differentiation. Following are attested forms, principally from *-iie/o- stems (there are significantly no -e/o- deponents, on which

see below); archaic forms are given when quotable. Unless otherwise indicated, Irish forms are taken from Thurneysen, OIGr., Early Welsh from Lewis-Pedersen, CCG, or Simon Evans, MWGr.

		sg.	pl.
deponent cjt.		·moiniur	·brudemor
		·mointer (< -ther)	·cluinid
		·moinethar	·moinetar
	abs.		1 suidigmir
		3 midithir	3 miditir

The remaining persons of the absolute are identical with the conjunct forms.

Only third person passive forms are found; the remaining persons are formed by infixing pronominal objects to the 3 sg. passive form: ·suidigther 'he is placed', no-m·suidigther, no-n·suidigther 'I/we am/are placed'. Passive forms:

AII = BII dep.	(-iie/o-)	·suidigther	·suidigter/·suidigetar
AI (-a-)		·carthar	·cartar/·caratar
BI (-e/o-) cjt.		·berar, ·berr	·bertar/ friss·drengatar
	abs.	berair	bertair

(Pass. ·drengatar from the legal text Coibnes uisci thairidhe §2, ed. Binchy, Ériu 17.52-85 (1955).) Unlike the indicative, the passive imperative

(like the non-imperative conjunct in form) shows the same forms for active and deponent verbs: léicther 'be it left' like suidigther 'be it placed'. Given that the imperative commonly preserves obsolete indicative forms, this fact would suggest already that the differentiation of passive and deponent in the indicative is a secondary development.

§12. The normal absence of syncope in the deponent 3 sg. indic. -ethar as against the normal presence of syncope in the deponent passive 3 sg. -thar has led scholars to the assumption that the thematic dep. 3 sg. should be reconstructed *-(e)tro, whereas the (thematic) dep. 3 sg. passive reflects *-(e)tor. Cf. Thurneysen, OIGr. §§ 575,578 for a detailed discussion of the phonological rules involved; which are quite regular.

The great failing of this traditional view is that there is no justification whatsoever from cognate languages for an ancient differentiation of deponent (middle) and passive forms. Following Benveniste, 'Actif et moyen dans le verbe', JPsych. 1950.121-129 = Problèmes 168 ff., we may state that the passive or impersonal is a secondary function of the basic middle, 'diathèse interne', in Indo-European; there where special passive forms have been developed, as in Indo-Iran. -ya-, Arm. -i-, Gk. -θη-, they are an inflexional category going back to an earlier middle, stative, or intransitive derivational category. In Vedic where the old 3 sg. mid. *-ai (-e) has been replaced in the primary middle function by *-tai (-te), the

old ending is often preserved in the secondary function of a passive. And for Celtic as well, the comparative evidence points clearly to the passive forms as the more archaic.

§13. For the thematic (BI) passive forms we may compare directly the Hittite mediopassive, significantly both the '-ta middle' and the '-a middle' as discussed earlier, ch. V §20. The thematic 3 sg. forms Olr. abs. berair, ejt. *berar, *berr reflect *-ori, *-or, and may be directly equated with the Hittite mediopassives with -ri such as kišari 'becomes', as noted already by Lewis-Pedersen 310. Hittite shows only the endings -a or -e + ri; but Palaic kitar 'lies' (Hitt. kitta, kittari 'id') shows the basic Anatolian extended form to have been simple -r, not -ri; the same conclusion is afforded by the imperative, Hitt. -(t)aru, with -u suffixed to the form in final -e. The element -i was the same as occurs in the -ti : -t alternation. The 3 pl. forms abs. bertair, ejt. *bertar reflect *-ontori, *-ontor, like Hitt. -antari, Lat. -untur. The occasional unsyncopated forms like friss-frengetar have been influenced by the form of the deponent; v. infra.

These BI passives are the only ancient thematic (-e/o-) present middle forms preserved in Old Irish. The weak a-verbs (AI), on a later chronological level as derived verbs, show -t- in the 3 sg.: pass. abs. carthair ejt. *carthar from *-ā-tori, *-ā-tor. The same preform (primary or secondary) underlies archaic Middle Welsh -otor. The plural reflects *-ā-ntori, *-ā-ntor; the ending is most faithfully

preserved in OW plauthonnor gl. fodiantur, with -nn- < -nt-.

Celtic thus agrees exactly with Anatolian and Italic in preserving endings 3 sg. *-(r)o + r(i), pl. -nto + r(i). There is a good deal of variation in the distribution of the forms with and without -t- in the 3 sg. among the dialects. We have thus in the ā- subjunctive *-ā-tor in OIr. pass. -berthar like Lat. ferātur, but *-ā-r in Umb. ferar, and cf. the archaic Middle Welsh futures in -(h)awr. The 3 sg. passive (impersonal) of the root *(s)tā- with the idiomatic meaning 'be vexed, angry' in nasalizing relative clauses in Old Irish (is hed dathar dom 'that is why people are vexed with me' OIGr. §779.2) reflects *(s)tā-tor; but its Middle Welsh cognate tawr (ny'm tawr 'I do not care' VKG 2.433) reflects *(s)tā-r without -t-.

Beside Lat. -ē-tur in the second conjugation we have *-ē-r in Oscan loufir and MW. -ir, which becomes the productive impersonal-passive of the language. But archaic Middle Welsh also shows -itor. The stems in final short -a- (-na- < *-no) have -na-r in Old Irish (-banar), but cf. archaic MW -ator. Archaic MW -etor may correspond directly to Lat. -itur, cf. Hitt. -ittari.

Finally the MW imperative impersonal -er, which is probably repeated in the subjunctive -(h)er, may contain a very old apophonic *-ĕr corresponding exactly to Umb. i-ĕr 'itur' and the OLat. passive inf. ĕri-ĕr. Such an interpretation would support Meillet's view of the antiquity of -(i)er beside -(r)or discussed above. Cf. also Pedersen, Hitt. 87: 'Das Perfektum hätte also -ē in denjenigen Personen gehabt, die im Präsens -i haben können, und die im Medium

-o (und wohl auch -e) haben können.'

Kuryłowicz, Infl. Categ. 65-67, suggests unconvincingly that the Irish passive reflects an analogical refashioning of the form originally proper to the deponent, taking the latter as the old "(medio)-passive" : an argument subject to the theoretical objection of the primary middle (not passive) function in Indo-European noted above. He considers suidigithir 'he places' (dep.) as the regular reflex, and that suidigthir 'is placed' (dep. passive) has syncope on the model of the active. In the strong verbs he suggests a most unlikely set of analogical developments (partly influenced by erroneous data like *no-n-suidigther), which must be rejected. The genesis of the particular form of the passive is a syntactic development of Common Celtic date, as the Brittonic data testify. This is already sufficient reason for rejecting a theory that the passive is a development from the deponent at a very late period, post-syncope in Irish, which Kuryłowicz's theory would require. The syntactic feature of infixed pronoun expressing the grammatical subject outside the third person is best accounted for by the assumption of an old Common Celtic impersonal form, continuing the oldest form of the middle. The equation of Irish -berar berair < *-or *-ori beside -thar -thair < *-tor -tori with the Hittite middle -a(ri) beside -ta(ri), Palaic -tar in kītar 'lies', is too striking to be rejected.

§14. The Celtic passive shows the same form as the Hittite

medio-passive, and specifically continues the secondary function of an impersonal form, rather than the primary, middle function. The secondary, impersonal function for this form is documented in Hittite in such forms INA ŠÀ KUR ^{URU}Hatti akkiškittari 'people are dying in the land of Hatti', in the Plague Prayers of Mursilis II §1, cf. akkiškitta[ri?] in the ritual of Zarpiya, KUB IX 31 I 2 = HFU 14, and parā parā SIG$_5$-iškattari (= *lazziškattari) 'es geht nach und nach immer besser', Friedrich HWb. 128.

The development of a passive out of an earlier impersonal took place within Celtic; it was confined to transitive verbs, and in intransitive verbs the old impersonal function was continued intact: tíagair 'on va' tíagar 'qu'on aille'. The passive function was effectuated outside the third person by the addition of 'infixed' pronominal objects: Olr. no-m·berar 'on me porte' > 'I am carried' Mid. Welsh y-m galwir 'on m'appelle' > I am called'. It is thus unnecessary to resort to the assumption of infixed subject pronouns, with Kuryłowicz 67, a syntactic feature otherwise wholly unknown in Celtic. Formed originally in the fundamental present tense, this syntactic pattern was imposed on the preterite passive, hence 1 sg. (etc.) no-m·breth 'I was carried' beside 3 sg. ·breth (he was) carried, portatus (est)', the latter doubtless originally in nominal sentences. The restriction of the old verbal adjective in *-to- to an inflexional function as preterite passive brought about a renewal of the form of the verbal adjective in its primary (derivational) function: the Olr. ending of the verbal adjective ('past participle passive') is -the < *-tiĝo-, a differentiation parallel

to that in Persian kard 'fecit' < Iran. *kr-ta-, beside the innovated form karda 'factus' which continues the old nominal function. This new participle is probably also the source of the absolute forms of the preterite passive, e.g. breth(a)e 'was carried', a good example of the secondary creation in Celtic of absolute forms in opposition to inherited conjunct forms, in order to fill out the pattern.

The passives then, show evidence for an inflexion *-(t)or(i) in the 3 sg., which is confirmed by the comparative evidence of Hittite; Hittite shows as well, however, that the -r(i) element is secondary, and not an inherent constituent of the form in Indo-European. Since the passive shows the same form in the indicative as in the imperative, we may assume that it is the most ancient form of the middle voice: a conclusion which is supported by the Anatolian comparative evidence. For the passive imperatives *-(t)or, *-ntor of Olr. befar, carthar, bertar can be equated with the Hittite and Luvian third person ipv. -(t)aru, -ntaru, save that the latter have innovated by suffixing the imperative third person particle -u (cf. Sommer, Heth. u. Heth. 45). The basic Anatolian form is thus -(t)ar, -ntar < *-(t)or, *-ntor. The Middle Welsh imperative and subjunctive passive -er, once -ter in the subj. traethatter, probably goes back to an apophonic *-(t)er.

§15. We may now turn our attention to the problem of the inflexion of the deponent in Celtic.

It is noteworthy that in the sure cases where an Old Irish

deponent verb corresponds to thematic -e/o- deponent in other Indo-European languages, the Old Irish form is a weak i- verb (*-iie/o-). The best examples are ·midiur ·midethar 'judges' : Gk. μέδομαι, and ·sechethar 'follows' : Gk. ἕπομαι. OIr. ro·laimethar is a strong verb with -iie/o- present, but one may observe depalatalization in the 1 sg. already in Wb. ro·laumur 17^a8 beside ru·laimur 17^c21; cf. the other later 1 sg. forms without palatalization cited in RIA Contribb. s.v. lamaid. For this reason it is quite likely that 1 sg. ad·gládur and ad·cluchur (ad-tluchur) have likewise undergone depalatalization, cf. especially du-n·thlaichiur Ml. 44^c20, and were i-verbs. Both have -e/o- deponent cognates: Skt. hrādate, Lat. loquor, though ·gládathar may rather reflect an iterative *ghlōd-eie-, cf. the parallel root form *ghrōd-eie- in Gmc. *grōtjan, Engl. greet.

Note also the depalatalization in 1 sg. ipv. águr, a present formed by the suffixation of -iie/o- to an old Celtic perfecto-present *āg- : Goth. og 'I fear'. For the semantics of the perfect cf. Gk. δείδω < δεδϝοιγα, Ved. bibhaya, and especially OCS boitъ se, likewise formed with an i-suffix to an old perfect stem *bhoi- (Stang, Verbum 24).

The verb (ro)·cluinethar 'hears' also shows Irish -iie/o- inflexion, cf. ro·cluiniur-sa Togail Bruidne Da Berga 449, ed. Knott. The original Celtic stem was *klu-nu- (IE *kleu-), like Av. surunaoiti = /sru-nau-ti/ ; for the type cf. Arm. erdnum 'I swear' < *dhru-nu- (IE *dhreu- : Gk. θρέομαι).

This indicates that at some point in Irish prehistory the

inherited -e/o- deponents adopted the stem final -iie/o-, itself inherited in some deponents like ·muinethar : μαίνομαι. This hypostasis in stem-formation of the deponent from strong (-e/o-) to weak (-iie/o-) inflexion testifies to the primacy of the latter type. It is the i-verb deponent which imposes its model on the others, and it is within the i-verb deponent that we must seek the conditions of a historical explanation. The implication is clear: the traditional view of a thematic form *-etro, and the attendant phonological conclusions, cannot be valid if the thematic vowel -e/o- was replaced by -iie/o-.

§16. As has been noted in ch. XII §§9, 12, the Old Irish i- verbs go back to two distinct and productive Common Celtic stems: *-eie/o- > *-iie/o- and *-ē- > *-ī-. Thus 1 sg. active *-iiū in OIr. áiliu, but *-īmi in archaic MW. -if. We have already seen that the archaic Middle Welsh impersonal-passive -itor must reflect *-ī-tor; parallelism requires the postulation of a 3 sg. mediopassive from the stem -iie/o: *-iietor.

It is immediately clear that the -e- of OIr. 3 sg. dep. -ethar has not been protected from syncope by a putative following *-tro; rather -e- is here the normal Old Irish product of the syncope of internal disyllabic -iie- (-ie-), cf. OIGr. §106. The expected Old Irish reflex of *-iietor is -ethar.

We may thus assume for the i-verb mediopassive a twofold paradigm in the third person:

a) *-i̯ētor *-i̯ēntor > -athar -etar

b) *-ītor *-întor > -ther -ter

beside the unitary type of the a-verbs:

*-ātor *-āntor > -thar -tar

The majority of deponents belonged to type a), and it is these forms which prevailed in the 'active' deponent. But the basically impersonal character of the Irish passive (unlike that of Italic), and the loss of the middle ('internal)' value of the deponent, permitted the formation of a passive to a deponent, and thus led to the necessity of formally distinguishing 'active' deponent and passive in the third person. The equivalence of syncopated -ther from -ītor and -thar from -ātor as passive led to the generalization of -ther in this function in the i-verbs. Hence ·cuirethar, pass. cuirther, and in the productive denominatives in -ig-, ·suidigethar, pass. ·suidigther. The a-verb deponents adopted the same pattern, whence ·molathar, pass. ·molthar.

One may observe the spread of passive -ther, -thar also from an early period to the s-subjunctive; beside historically regular gessair, ·gessar < Celt. *ged-s-er(i) we have archaic cases like con.abaster, perfective pres. subj. 3 sg. pass. of con.boing, Bretha Déin Chécht §22, ed. Binchy, Ériu 20.1-66 (1966).

In the 3 pl., it is noteworthy that the hesitation -etar, -tar was not completely eliminated in the passive, and indeed spread

to the a-verbs (·caratar thus analogical), and occasionally to the -e/o- verbs (friss·drengatar).

If this theory is correct, then we might expect some archaic retentions of the unsyncopated form in the passive 3 sg., and particularly in strong verbs, which doubtless adopted the deponent inflexion in -iie- rather than the stative -ī-. Two old examples in Bergin's law construction (with the uncompounded conjunct form in sentence final position) are fo lin maine midhidear 'the property is judged among the whole group' (Stud. in Early Ir. law 14); ní noillig ni sech miach midi(g)ther 'nothing over a sack is adjudged to an oath' (Celtica 6.33, where my suggestion to read -mitter is wrong). In the first example the archaic 7^3 verse form guarantees the trisyllable ·midethar. Another instance is secht cinela aire... asa midit[h]er dire 'seven kinds of satire from which dire is adjudged' (AL 5.228.26). The passive 3 pl. is always trisyllabic; abs. miditir Wb. 4^c9, rel. midetar Ml. 128^b2, cjt. ·midetar LL 293^b5, cf. ZCP 11.81 §10a.

Of the third person absolute endings, dep. -ithir -itir, pass. -thir -tir, only the latter are phonologically regular, from *-ī-tori, *-ī-ntori. One would expect *-eth(a)ir *et(a)ir from *-iietori *-iiontori, cf. dat. brithem(a)in < *-iamoni. The palatalization of the dental in -ithir, -itir must be analogical to that of the passive -thir -tir, to effect a symmetrical system of oppositions: abs. -ithir -itir, -thir -tir, cjt. -ethar -etar -ther -ter.

§17. Of the remaining persons, 1 sg. -(i)ur and 1 pl. arch. -emor have already been noted in connection with the Latin forms: they reflect *-(ii̯-)ōr and *-(ii̯-)omor; unlenited -mm- in 1 pl. is after the copula. Though the deponent 1 sg. is attested in the present only for i-verbs, OIr. -iur, the pure thematic *-ōr is found in the deponent 1 sg. s-subjunctive (= s-future as well, cf. OIGr. §659): ·fessur 'that I know', perfective ·dóesur 'that I eat' (de-fo-ess-, OIGr. §471) < *-s-ōr. The very archaic character of the deponent s- subjunctive in the latter verb is rightly pointed out by Ivanov, Obšč. sist. 162. It is curious that while the deponent s-subjunctive 1 sg. is thus thematic, ·fessur < *-s-ōr, the 2 sg. ·fesser (abs. meser) is athematic: *-s-t...Cf. perhaps the pattern 1 pl. -s-oms but 2 pl. -s-te in the Slavic s-aorist. The second persons will be taken up further in connection with the deponent imperative.

§18. There remain the very archaic (Amra Coluim Chille, end of VIth. cent.) Irish impersonal-passive forms like i·n-ágthiar 'wherein is cried out', molthiar 'who is praised', dringthiar 'is climbed', rigthiar 'is extended (?)', where the ending -thiar is disyllabic (Celtic Verb 182 n., Celtica 6.228.). We noted above (§10) Thurneysen's attractive comparison of the Old Latin passive infinitive uortier (Plant., Rud. 886) with the RV absolutive ā-vr̥tyā, abhi-vr̥tia (books I and X).

Now just as the root noun from TeR- roots is formed by suffix-

ing an empty -t-, thus Ved. kr̥-t- beside vr̥t-, so the absolutive in -ya has the form -tya after TeR- roots: Ved. -kr̥-tya beside -vr̥t-ya. The Vedic absolutive thus has the form -(t)ya, recalling *-(t)o-r of the middle and other 3 sg. forms with and without -t-. Note that this alternation is not found in the other Vedic absolutives -tvī, -tvā, where the -t- is constant, and that to judge from the late RV combined form -tvāya, the fundamental form of -(t)ya was that with short final vowel (otherwise Renou, Gr. véd. §373).

If Thurneysen was correct in comparing Ved. -ya with OLat. -ier, thus supposing *-ie(-r)/-io(-r), the parallel Ved. -tya may be compared in the same way with OIr. -thiar, reconstructing *-tie(-r)/-tio(-r). Archaic MW. llem-ittyor 'is leapt (upon)', despite OIGr. §581, probably shows an analogical transformation (d + h > t, written tt) of the same ending, cf. Lewis-Pedersen 308. Such a form as *-(t)ie/o(-r) was marginal to the verbal paradigm, whence its syntactic implementation as absolutive in Vedic, infinitive in Latin, and impersonal-passive in Celtic.

§19. The deponent imperative in Old Irish shows partially divergent forms from the indicative, in 2 sg., 3 sg., and 2 pl. in a single form. Paradigm (i-verb):

águr	*cluinemmar
cluinte (< -the)	cluinith, arch. fommais
cluineth	cluinetar

The 3 sg. shows the same ending in the active imperative: bereth 'let him bear', for·canad 'let him recite'.

In the 2 sg. we find a difference between indicative -ther and imperative -the; internal reconstruction indicates that the imperative form is the older, and it is easy to explain the indicative form as containing the same suffixed -r as the first and third persons. It is impossible not to connect the ending -the with the ending -ta of the Hittite 2 sg. middle, IE *-tǝo; but the details are unclear. Thurneysen was inclined to equate -the with Indic 2 sg. secondary mid. -thāḥ, reconstructing *-thēs (OIGr. §574, following Wackernagel). This is not possible, since IE *-thēs would give OIr. *-thi (cf. Trivium 1.103), and in any case Indic -thāḥ does not come from *-thēs, but from Indic *-tha + as, the 2 sg. active ending (cf. Kuryłowicz, Infl. Cat. 59). If Thurneysen is correct in regarding the 2 sg. ā-subjunctive ending of ber(a)s as the regular reflex of -ā + Ī, then the ending -the could be interpreted as reflecting Celtic *-ta + Ī, the 2 sg. active ending, and thus be exactly parallel to Indic -thāḥ in origin. But this is offered only as a suggestion.

The 2 pl. indicative shows the same form as the active. In view of the distinct 2 pl. imperative fomnais 'beware' (ic·moinethar) in archaic texts beside the normal fomnid 'id', as well as the tendency to replace deponent by active forms in the 1 pl. as well (part of the general loss of the deponent in Middle Irish), it is best to take the active form as a secondary replacement of the earlier middle ending. It is curious to note that the same development

appears to have occurred in Tocharian (ss Pedersen, Tocharisch 155), and that also in Latin the 2 pl. mediopassive in -i-minI is the only point in the paradigm where the old system is attacked.

The origin of the ending -(a)is of fomnais is however obscure: it cannot be related to the ending of Hittite -(d)duma (presupposing /t/), or Skt. -dhvam, Gk. -σθε. I compared the last in Anc. IE Dial. 40, but if the Greek ending reflects *-s + dwe, this would yield -(e)zde > (e)dde > (a)it with unlenited d in Old Irish. Hence the comparison must be rejected. Phonetically the ending could be most easily derived from *(-e)-s-te. In this case, the most promising comparison would be the variant Hitt. 2 pl. active ending -šten(i) beside -ten(i), e.g. ipv. dalešten 'leave', pešten 'give' (both hi-conjugation). The Old Irish form would attest the old neutralization of the opposition of voice in the 1 and 2 pl. endings, as in the 'Indo-European' perfect. We may note the Tocharian 2 pl. imperative and preterite active ending B -s(e), A -s, for which *ste has been suggested (see the discussion in Pedersen, Tocharisch 147-8), but the derivation is uncertain.

§20. In the 3 sg. it is the imperative -(e)th which preserves the older ending of the inherited middle: *-to, without the generalization of the characteristic r-element as a specific mark of the middle as in *-tor. Older *-to has been replaced by *-tor in its primary (indicative) function, and survives only in the secondary function of imperative; cf. Kuryłowicz, Infl. Cat. 64-5. Yet a more

important consequence of the generalization of -r as a sign of the middle voice was that the old ending *-to without -r could be reinterpreted as active, by opposition to *-tor. Just so the Luvian ending -ta < *-to was reinterpreted as active by opposition to the middle -tari, as we have seen. Hence *-to is preserved not only as 3 sg. ipv. deponent, but 3 sg. ipv. active as well; synchronically the basic function is the active one, and 3 sg. cluineth shows an active ending just as much as 2 pl. cluinith.

In the 3 sg. imperative (active) the form *bereto must have replaced an earlier *bere identical with the 3 sg. conjunct (OIr. ·beir), as shown by the residual 3 sg. ipv. ·ét 'let him go' = cjt. ·tét. It thus had the advantage of eliminating the homophony between 2 sg. ipv. *bere and 3 sg. indic. = ipv. *bare. This homophony did not exist in the imperative of ·tét, where 2 sg. eirg was from a different root; hence there was no impetus to reshape ipv. tét. Similarly in the compound do·tét, 2 sg. ipv. tair unlike 3 sg. taít (a morphological reflex of *to-thet, like the ro-forms in the perfect).

The development of 3 sg. ipv. active *-to is Common Celtic, as is shown by such equations as OIr. bíth (3 sg. ipv. of the consuetudinal present) : MW. bit, Celt. *bī-to. The normal Middle Welsh 3 sg. ipv. ending is -et < *-eto; archaic by-forms in -it are found, which cause umlaut of the vowel of a preceding syllable (bernit from barnu 'judge', cf. Simon Evans, MWGr. §140), and reflect *-īto. Cf. -etor and itor respectively. The Old Irish deponents like cluineth probably go back to *-iieto, like ·cluinethar from *-iietor;

klyos- 'hear', Krause-Thomas, Toch. Elem. §481:

B	A
klyause-mar	klyos-mār
klyaus-tar	klyos-tār
klyaus-tär	klyos-tär
klyause-mt(t)är	klyosa-mtär
klyaus-tär	*klyośśar < *klyos-tär
klyause-ntär	klyosa-ntär

The stem is IE *kleu-se/o- (cf. Ved. śrus-tih), and the distribution of the thematic vowel exactly that of Greek: *-so- in 1 sg., 1 and 3 pl. > B -sa- A -s(a)-, *-se- in 2 and 3 sg. 2 pl. > BA -s-.

In the endings the two languages agree in all but details. For the 1 sg. preterite, A has -e < *-ai but B -mai. Following Krause-Thomas §468 we can compare respectively Indic 1 sg. -e < *-ai and Gk. -μαι. Gk. -μαι is an analogical creation of 1 sg. -m- plus the old ending -ai (cf. ch. IX §9), and it is clearly indicated to assume the same for Tocharian B: -mai < -m- + -ai. Cf. in the same sense Lane, GGA 214.128 (1962). On the model of this case we may suggest a similar explanation for the 1 sg. present middle: B -mar A -mār, common Tocharian *-(m)ār < -m- + *-ōr, identical with the *-ōr of Italic and Celtic, and with Hitt. -ahhar(i). Virtually the same explanation, but without the parallel of the 1 sg. pret. -(m)ai, was already proposed by Van Windekens, REIE 2.101 (1939),

and Morph. comp. 305. It is surely preferable to Pedersen's comparison of Lat. 1 pl. -mur, Toch. 154, followed by Krause-Thomas §468 (who further incorrectly derive Lat. -mur from *-mōr). For the phonetics of B -mar A -mār < *-(m)ōr cf. the old neuters like B yasar (MQ perl. yāsār-sa, Krause-Thomas §14), A ysār 'blood' : Hitt. ešhar, Gk. ἔαρ, but with the *-ōr of Gk. ὕδωρ, Hom. τέκμωρ (Ivanov, Tox. Jaz. 15-16).

The 2 sg. B -tar A -tār points to a Common Tocharian *-tār with long vowel, hence cannot go back directly to the 2 sg. active *-ta (< *-tạo) of B -t(o) A -t plus -r. Probably it repeats the vocalism of the 1 sg. *-(m)ār, like Gk. -σαι after -(μ)αι and Skt. subj. -sai after -ai. Note that the 1 and 2 sg. are likewise a rhyming pair but different from the 3 sg. in the preterite middle: B -mai -tai A -e -te.

For 3 sg. and pl. the evidence of all the cognate languages leads us to expect *-(t)or *-ntor, built by the suffixation of -r onto the basic endings *-(t)o *-nto. The basic endings without -r are preserved in the Tocharian preterite, 3 sg. B -te A -t, 3 pl. B -nte A -nt, and *-tor *-ntor are the only plausible ancestors of AB -tär -ntär.

Since both final *-o and *-os are preserved in B as -e (*-to > -te, *ekụos > yakwe), and final *-tros appears as -tre in B gen. tkatre = θυγα-τρός, cf. also B ratre A rtär = ἐρυθρός, we would expect a *-tro to yield B *-tre. Hence the views of Pedersen, Toch. 154 and Krause-Thomas §§22, 470 cannot be correct. The relation *-(t)o ~ *-(t)o + r, observable both in Anatolian and Celtic, together

with the clear presence of *-to in Tocharian, likewise prohibit us from reconstructing *-(t)r̥ (so Ivanov, Tox. Jaz. 31) just as in the other languages. Since the absence of palatalization of -t- precludes *-ter (cf. A 2 pl. pres. act. -c < *-te), we are left with *-tor *-ntor as the only possible reconstruction for -tär -ntär. Pedersen himself came to the same view, cf. his Nachträge to Toch. (1949), p. 263.

Clear phonological parallels are lacking. But the oblique sg. of the kinship terms in B, pätär mätär ṣkätär protär probably goes back to *pətor(m) etc., with (analogical?) o-grade in the suffix, beside Gk. -τέρα OCS -teri, Lith. -terį, cf. Ivanov, Tox. Jaz. 19.

The 1 pl. AB -mt(t)är, 2 pl. A -tär B -tär are built on the basic endings of the preterite middle, A -mät B -mt(t)e, A -c B -t, by the addition of -r, but the details are uncertain. The -e of B -mt(t)e is probably analogical, and the absence of palatalization in B -t is obscure. The identity of 2 pl. pres. active and 2 pl. pres. active and 2 pl. pret. mid. -c in A is noteworthy.

§22. The paradigm of the preterite middle of B prek- A prak- 'ask', Krause-Thomas §496, is

B	A
parksa-mai	präks-e, yäm-we
parksa-tai	präksä-te
parksa-te	präksä-t

parksa-mt(t)e	präksā-mät
parksa-t	präksā-c
parksa-nte	präksā-nt

In virtually all preterite classes a stem-final -ā̆- precedes the ending. The Tocharian preterite represents a conflation of earlier aorist and perfect; the stem final -ā̆- < IE *-ā- (Krause-Thomas §456) doubtless an old aorist marker similar to the -ē- of the Baltic preterite. As such it probably showed athematic endings of the -m -s -t set in the active, cf. Krause-Thomas §461-463. But traces of the old perfect are left above all in the reflexes of the characteristic o-vocalism, e.g. B nek(sate) 'perished' < *nok- beside pres. naksäm 'destroys', as well as in the endings themselves.

We have noted that the pret. sg. endings B -mai -sai -te A -e -te -t permit a reconstruction for the Common Tocharian period.

*-ai

*-tai

*-to

The 1 sg. *-ai < *-o + i (renewed by the insertion of -m- in B) may be equated with OHitt. -ḫe (later -ḫi), Lat. 1 sg. pf. -ī (Faliscan -ai), and 1 sg. -ă̄ in OCS vědě. A -we in pret. yāmwe, impf. mäñcāwe recalls Lat. -u-ī, cf. Krause-Thomas §462. The basic Tocharian A ending -e, beside isolated -we, prohibits us from

assuming an alternation u̯ : m in the endings A -we : B -mai, as does the secondary character of m in -mai, like μ in Gk. -μαι. Were the basic ending originally -we in A, the absence of the w in -e could not be explained, whereas the reverse development is readily understandable. Hence I reject Ivanov's suggestion on the Tocharian forms in Obš. sist. 159 n. 86. His view of a u̯ : m alternation in Luv. 2 pl. -tuwa(ri) beside Hitt. -ttuma(ri), on the other hand, is quite correct. The 2 sg. *-tai < *-to̯ + i may be compared with the -tī < *-tai of Lat. pf. -istī; both perfect endings. On the other hand 3 sg. *-to is clearly the IE secondary middle ending of the present-aorist system. The preterite middle paradigm in Tocharian is thus composite.

The preservation of the final diphthong *-ai in these endings (cf. final *-oi of polysyllables > -i in the nom. pl. of B class V, e.g. yakwi < *ekuo̯i) is to be attributed to the possible suffixation of enclitic pronouns (E). The preservation of *ai + E is exactly paralleled by nom. pl. B alyaik 'alīˈ < *alio̯i-kV, cf. Pedersen, Toch. 59.

We have seen that the endings proper are preceded by the vowel -ă̄-, which with Kruase is best taken as an Indo-European suffix -ā-, associated with the aorist. With the conflation of aorist and perfect to form the new Common Tocharian preterite, we may suggest that the old aorist mid. *-ā-to was generalized in the 3 sg., resulting in the complete elimination of the old 3 sg. perfect ending. The latter was perhaps *-ei, in accord with the pattern of 1 sg. *-ai, 2 sg. *-tai, just like Latin -ī. -istī -ī-t < *-ai -tai -ei, as well as Slavic 1 sg. -ě 3 sg. -i(tъ) of vědě, mьni-tъ from the

same preforms, though an earlier zero-ending (-i = zero + i) is also possible.

The -ā- of the 3 sg. -ā-to was then generalized in the other persons, and the old endings of the perfect suffixed to it:

*-ai	→	-ā-(m)ai
*-tai		-ā-tai
*-ā-to replacing *-(e)i		-ā-to

thus obtaining the historically attested forms.

§23. There remain the imperative middle endings of the second person (AB käl- 'bring'):

	B	A
2 sg.	(p)kala-r	päklä-r
2 pl.	(p)kala-t	päklä-c

Initial p(ä)- is a particle related to Hitt. pe and Slav. po-; cf. Benveniste, Festschrift Hirt 2.235, Hitt. et i.-eur. 32, and Ivanov, Obšč. sist. 76 n.67. The isolated final of A päklvossū 'hear' may reflect IE *-sue (Ind. -sva), cf. Krause-Thomas §463,4, and ch. III §7 above.

In the middle plural the imperative shows the same endings as the preterite, as noted above. In the singular both languages show a

form in -r after the sign -ā-. Krause-Thomas §469.3, following Pedersen, Toch. §84, take it as a 'sehr alte Nominalform', functioning as an imperative. But there are no comparable ancient infinitive-like formations in Tocharian. The basic form is -ā-r, with the aorist stem marker -ā-, a zero person-marker, and a middle voice marker -r. The zero person-marker is entirely in conformity with the model of the relations of the persons in the imperative as shown by Kuryłowicz, and discussed above (ch. IX §1): in the imperative it is the 2 sg. which is the 'zero-person; while in the indicative (representational) it is the 3 sg. For these theoretical reasons I propose to equate the Tocharian 2 sg. imperative mediopassive -ar with the Umbrian 3 sg. representational (subjunctive) passive -ar in ferar 'feratur'. The -ā- element is etymologically the same in each, although of different function; in both cases the form is marked for voice, but shows zero for person.

We may note the preservation in the (aorist-stem) imperative mediopassive of a form *-ā-r which is on an older chronological level than the 3 sg. aorist-stem indicative mediopassive *ā-to, as well as older than the present *-(e)tor; the imperative 2 sg. form must have been identical with the indicative (3 sg.) form before the introduction of a -t- in the latter, the replacement of an ending *-o by *-to. For the form with vocalic aorist-suffix *-ā-r probably presupposes the existence of an unsuffixed -o + r, comparable to the *-or of OIr. pass. °berar and Hitt. mediopass. -ar(i).

This Tocharian 2 sg. imperative -r built on the old aorist stem in -ā- should finally be related to the Armenian 2 sg. (active

and deponent) imperative positive in -(i)r, likewise built on the aorist stem: lsem 'I hear', deponent aor. 1 sg. luay, ipv. 2 sg. lur; dep. ankanim 'I fall', ipv. ankir; linim 'I become', ipv. ler; dnem 'I place', aor. edi < *dhē-, ipv. dir; tam 'I give', aor. etu < *dō-, ipv. tur. Cf. most recently V. Bănăteanu, Rev. roumaine de ling. 10.509-525 (1965) (published in Rumanian in 1956), for a discussion of the Armenian forms in -r.

Appendix: Etymology of the element -r

The examination of the r-endings characteristic of the traditions examined has shown that in all cases the basic third person forms reflect *-(n)tor, composed of *-(n)to + r. The absence of the -r in a number of languages, and its optional character in Hittite as against its generalization in Luvian, are enough to show the -r had at the outset nothing per se to do with the expression of the middle voice.

There is furthermore no evidence for any special "multi-personal" or "impersonal" force in the element -r. That value, observable for example in Lat. ītur, Umb. ier, OIr. tíagair, Hitt. akkiškittari, is ultimately a secondary function of the 3 sg. to which -r is added, the zero-person. Cf. on the one hand forms like Lat. lubet beside Osc. lcufir 'vel', on the other, passives of intransitive verbs in modern expressions like Germ. hier wird getanzt.

The -r appears thus only as a desintial component, a 'nota augens'. As such its etymology is to be sought among the inherited particles, which play the same role in the sentence. I suggest that the element -r be equated with the prosecutive particle appearing in Gk. ἄρα (ἄρ, ἄρ', ῥα, ῥ') and Lith. ir 'and', and further probably in West Toch. enclitic ra, mā ra 'ne-que' = East Toch. prohibitive mar.

The particles are discussed by Brugmann, Ber.d. Sächs. Ges. d. Wiss. 1883, 38 ff. The Greek and Lithuanian forms point to a

preform *r̥ in isolation. The Cypriote form ἄρ given by Hesychius conceivably shows a full-grade, but more likely shows a variation similar to that of Arc.-Cypr., Myc., and Att.-Ion. ἱερός beside ἰαρός of other dialects. The preform of Tocharian ra is uncertain. The further connection of Lith. interrogative ar̃, also 'or, whether', ar-bà 'or', ar̃-gi 'indeed', or Greek ἄρτι and Arm. ard, need not concern us here.

The morphonemics of ἄρα in Homer are archaic, and indeed paradigmatic for the development of syllabic *r̥ in Greek. We have the following patterns of attestation in the verse-line; the symbols C = consonant, V = vowel, # = word boundary. For ῥ(α) : -C/V#ῥ#V-, -C/V#ῥα#C- (ῥά before enclitic), where the preceding final C is always an original final, -s, -ν, or -ρ. This ῥα is the canonical phonological reflex of *r̥. For ἄρ': -C#ἄρ'#V-, where the preceding final -C can be old -s and -ν [-ρ is not found], but is more frequently a new -C arising from elision of a final short vowel. Examples of ἄρ' preceded by a final vowel are quite rare. Despite the elision of the tradition in ante‿vocalic ἄρ', we have here the normal Greek reflex αρ of antevocalic *r̥. It is from the antevocalic position that αρ spreads to anteconsonantal position as well, whence Homeric -C#ἄρ#C- (ἄρ before enclitic). The final -C preceding ἄρ, ἄρ is nearly always a final -C arising from elision, as against the -C preceding ῥ(α), which is always ancient. The final development is the analogical full form ἄρα, to be explained by the mechanism described in Kuryłowicz, Apophonie §22, extended to an anit form *r̥. As the apophonically latest form, it is not surprising that the

use of ἄρα is the freest of all the variants in Homér; nor that it is ἄρα which wins out over the others in post-Homeric Greek.

Unaccented ῥα beside accented ἄρ(α) continue an inherited alternation, comparable to that in Gk. νῦν, νυν (and τοίνυν). In either case it is always an enclitic particle, normally occupying second position in the sentence (Wackernagel's law), with certain rules of order within a sequence of enclitic particles.

As an enclitic particle, ῥα/ἄρ' enters into the Indo-European syntactic patterns which I have described in Celtica 6.1-49 (1963) and Proc. IX Int. Cong. 1035-1042. Using the symbols E = enclitic particle, V = finite verb form, P = preverb, # = sentence or clause boundary, we have four formulae for the basic pattern of the position of these elements in the sentence:

a) #.E....V# c) #.E...PV#

b) #VE.....# d) #PE....V#.

All of these patterns are well attested for ῥα/ἄρ'. It is noteworthy that of 736 instances of the oldest forms ῥ(α) and ἄρ' in the Iliad, 137 cooccur with middle finite verb forms; all but four of the middles have secondary endings. Of the 133 secondary middle forms, 115 are unaugmented, which is to be taken as a sign of archaism. Virtually all the verbs are third persons; we may then state that within the middle the privileged cooccurrence is that of ῥα/ἄρ' and 3 p. -(ν)το.

We may illustrate the patterns of cooccurrence from the Iliad. Type a) ἄρ'...ἔζετ' (N 15), and with the verb immediately following,

ἄρ' ἕζετο (B 628), ῥ' ἕζοντο (B 211). Type c) ῥα...καθέζετο (A 360 etc.). Type d) κατ' ἄρ' ἕζετο (A 68 etc.), with two enclitics κὰδ' δ' ἄρ'...ἑζέσθην (H 57).

It is the type b) #VE...#, with the finite verb in emphatic clause-initial position, in archaic poetry in the equivalent verse-initial position, which interests us. Here ῥα/ἄρ' may immediately follow the finite verb. We have the syntactic equivalent of the sequence of morphological elements in *-(n)to + r.

In the Iliad we have first the series of monosyllabic active aorists or imperfects followed by ῥ(α), nearly always verse or clause-initial: βῆ ῥ' (E 849 etc., 10x), whence βάν ῥ' (K 273 etc., 4x); γνῶ ῥ' (K 358); ἦ ῥ' (X 77); φῆ ῥ' (δ 504); βῆ ῥα (H 19, P 213); στῆ ῥα (H 225 etc., 3x), whence στῆν ῥα (Λ 744); ἦ ῥα (Γ 310 etc., 31x). Note that στῆ ῥα from *stāt r is directly comparable to the same elements in the same sequence in the Old Irish 3 sg. passive of the substantive verb, ·táthar < *(s)tātor.

With two enclitics we have βῆ δ' ἄρ' (B 16, 18), στῆ δ' ἄρ' (B 20 etc., 7x), whence στὰς δ' ἄρ' (Ψ 535), and cf. στῆσαν ἄρ' (Ω 350).

Cooccurrences precisely of -(ν)το and ῥα/ἄρ' also occur in type b). With two enclitics, we have at verse end but clause initial, ἤχθετο γάρ ῥα (N 352) and the similar αἴδετο γάρ ῥα (Φ 468). Note that if γάρ is correctly derived from γε + αρ (cf. ὃ γ' ἄρ'... ἄζετο E 434), the collocation γάρ ῥα is etymologically pleonastic. We have further κεῖτο δ' ἄρ' (Ξ 507), beside type a) in ἄρ'...κέατ' (Ω 610), ῥα...κεῖτο (M 380), and κεκάλυπτο δ' ἄρ' ἠέρι πολλῇ (Φ 549).

The verb of the latter formula has been transformed to the active voice some lines later in κάλυψε δ' ἄρ' ἠέρι πολλῇ (Φ 597).

The immediate succession of -(ν)το and the particle is found five times (one of which is repeated) in the Iliad. In all cases the final vowel of the ending is elided, and the particle, followed by an initial vowel, has the form ἄρ'. The attestations are κέκλετ' ἄρ' (Π 421); ἧστ' ἄρ' (Ψ 128), cf. type c) ῥ'...καθῆτο (Υ 153); κοιμῆσαντ' ἄρ' (Η 482), cf. type a) ἄρ'...κοιμῆσαντο (Ω 673); ἐπεμαίετ' ἄρ' ἵππους (Ε 748 = Θ 392), cf. type c) ῥά...ἐπεμαίετο (Κ 401); χώσατ' ἄρ' αἰνῶς (Θ 397), in a formula which recurs without ἄρ' but in the same verse-final position in χώσατο δ' αἰνῶς (Ν 165).

The elision of the final short vowel of a verbal ending appears to be an early innovation of Greek. There is therefore no obstacle to assuming that a prehistoric sequence *-(n)to r̥ V- could have been elided to *-(n)t' r̥ V-, which would regularly yield Gk. -(ν)τ' ἄρ' V-. In languages with permissible elision before vowel, on the other hand, the result in sentence phonetics of the sequence *-(n)to r̥ would be automatically *-(n)to r, before both consonantal and vocalic initial. On this basis we may 'equate' Gk. -(ν)τ' ἄρ' with Hitt. -(n)tar[i], Lat. -(n)tur, Celt. *-(n)tor, and Toch. -(n)tär. Even if some or all of these languages, or Indo-European itself, allowed elision of this sort--cf. Hitt. n-an t-an, OIr. nā·n-ta·n-(da·n-) from *nu *to plus enclitic accusative pronoun *e/om--the formal equation would stand as *-(n)t' r̥.

In West Tocharian as well, ra is an enclitic particle occupying second position in the sentence. The negation mā occupies sentence

initial position; the collocation #mā ra... 'ne-que' is exactly superimposable for the form on East Toch. #mar... 'μή', just as the Latin collocation neque eam is superimposable on a phonological word in archaic Old Irish nache·n-accatar 'and they did not see her'. See Lochlann 3.286-287 (1965) for the latter. In West Tocharian, ra is a free form, with restrictions on its position in the sentence comparable to those of Gk. ῥα/ἄρ'; in East Tocharian, -r is purely a component of the prohibitive mar, like the -r of *-(n)tor. We may note finally that ra occurs in West Tocharian also after middle verbs: cmetär ra nraiyne 'will be born in hell' (Thomas, Toch. Elem. II, XXX 10.) The succession of the two r-elements in -tär ra recalls Hom. γάρ ῥα noted above.

We have with the element -r (r̥) the situation where a purely syntactical feature of one group of languages, the sentence context of Hom. ῥα/ἄρ' and Toch. B ra, is equatable with a purely morphological (inflexional) feature of others: the ending *-(n)tor, and the purely lexical Toch. A mar. This situation is exactly parallel to the equation of certain syntactic (positional) features of the Indo-Iranian relative ya- and Hitt. kuiš with the morphological feature of the special relative forms in Old Irish, as shown in Celtica 6.28-30 (1963). With the relative in enclitic position, the sentence type #VE...# yields free forms in RV 1.70.5 dā́śad yó asmai 'der ihm aufwartet', but a unitary word in Gaul. dugiiontiio, OIr. bertae < *bheronti-i̯o. The type #PE(...)V# is independent in RV 4.5.4 prá yé minánti, fused in OIr. ima·berat 'which bring into play' (Críth Gablach 490, ed. Binchy) < *mbhi-i̯o bheront. No better

illustrations than the development of Indo-European *$\underset{\sim}{s}$ and *$\underset{\sim}{b}$ could be provided for the historical interdependence of morphology and syntax.

XIV. Tocharian

§1. The endings of the Tocharian middle have been treated in §§21-23 of the preceding chapter; there remain the desinences of the active voice to be considered. The system of personal endings in the two Tocharian languages is of considerable interest; for in many respects it forms a bridge or set of bridges linking the several desinential patterns observable in other Indo-European traditions.

Both Tocharian languages show four groups of endings, active and middle: cf. Krause-Thomas, Toch. Elem. §§454-474 for a full discussion, as well as the earlier interpretations of Pedersen, Toch. 140 ff., which in matters of etymology are often preferable to those of the later handbook. The four sets are:

I) present and subjunctive, also East Toch. [= A] optative and imperfects yem 'went', sem 'was'. These go back to the Indo-European primary and secondary series alike.

II) (only West Toch. [= B]) 1 and 3 sg. Imperfect and Optative, going back to athematic Indo-European primary *-mi and secondary *-t (or zero) in the respective persons.

III) Preterite (and East Toch. imperfect), going back to Indo-European athematic secondary (aorist) and perfect endings.

IV) Imperative, of composite origin.

The distinction between primary and secondary endings does not appear to have ever existed in Tocharian in a fashion comparable to Hittite, Indo-Iranian, or Greek; the basic forms are those of the secondary series (in groups I, II, III) with primary endings appearing only incidentally, and in part dialectally (East Toch. Group I). Both Tocharian present and Tocharian preterites partly reflect Indo-European secondary forms without -i, and in some isolated instances, reflecting archaic conservations, the endings of present and preterite are fundamentally the same.

§2. We may begin with the reflexes of the Indo-European athematic type. The Indo-European contrast between athematic (1 sg. -mi) and thematic (1 sg. -ō) endings has been given up, though there are sufficient relic forms to show that it once existed in the language. The opposition between present classes I ('athematic') and II ('thematic') is not directly comparable to the contrast as understood in Indo-European, since both share the same (ultimately thematic) endings. In the third persons classes I and II are basically identical, differing only in the palatalization of the root final consonant before the 3 sg. ending in II : B 3 śg. athematic palkäṃ (before enclitic pälkan-ne), 3 pl. palkeṃ (pälken-ne), thematic 3 sg. āśäṃ (aśan-me), 3 pl. ākeṃ (aken-ne).

The palatalization in them. 3 sg. ā́śäṃ reflects the Indo-European thematic vowel, *age-; it is probable that the athematic type of palkäṃ has simply taken over the ending of the thematic type, minus the morphophonemics.

One verb alone in B shows a 1 sg. present -m: yam (MQ yäm) = A yäm 'I go'. It would be tempting to equate this form directly with Ved. yámi, but it is not possible because the root of the latter is surely preserved in B 3 sg., 3 pl. iyaṃ (iy-ā- 'einherfahren, führen'), A 3 sg. pret. yā. The root vowel B -a- (MQ -ä-) = A -ä- further suggests IE *-e-. Since a preform *i-e-mi is extremely unlikely, we must assume that the 1 sg. yam in B has an -m of analogical origin. The source might have been a lost 1 sg. athematic pres. *(i)yam, cognate with Ved. yámi.

The remainder of the paradigm of this verb in the singular, B yam yat yam (MQ -ä-), A yäm yät yäs, shows a basically thematic paradigm, and has its closest correspondent in the Hittite thematic middle iyahha iyatta iyatta 'go'. See in further detail below, on the Tocharian thematic paradigm. The 1 and 3 plural in B are formed suppletively: ynam(o) yanem, with a root form yan- which recalls Hitt. iyannai-, perhaps also OLat. red-īnunt. Cf. Pedersen, Toch. 160, Krause, Westtoch. Gr. §63, and Ivanov, Obšč. sist. 179-180. In view of the thematic character of the singular of this verb, and its closest relation to Hittite iya-, presupposing *i(y)-e/o- formed

like the *d(ə)-e/o- of Ved. á-da[t] (ch. VIII §8), Pedersen's equation of A 3 pl. yiñc 1 pl. ymäs with Ved. yánti, imás must remain doubtful. They would be the only inherited athematic forms found in either Tocharian language.

§3. It was noted in ch. II §3 that in most Indo-European languages the old athematic endings were most tenacious in stems in long final vowel. The 1 sg. of all presents, subjunctives, and optatives in East Tocharian shows an ending -m. It seems indicated to derive this ending from athematic *-mi, inherited in the present and subjunctive classes V (in -ə̄-) and VI (in -nā-) from the athematically inflected Indo-European suffixes *-ə̄- and *-nā-. For the latter note especially B 3 sg. tällem, with enclitic tällän-ne < *täläna-, cognate in root and suffix with Lat. tollere, OIr. tlenaid < *tl̥-na-. The spread of 1 sg. pres. -m from roots in final long vowel to all the presents in the language can be exactly paralleled both in Celtic and Armenian. East Tocharian thematic 1 sg. ākam 'I lead' is an analogical development just like MIr. agim, MW af, and Arm. acem.

§4. Tocharian is unique among all earlier Indo-European

languages in showing no trace whatsoever of the old primary athematic ending *-ti, not even in the verb 'to be'. This must raise the question of whether the ending *-ti ever existed in the language, and whether the athematic paradigm was inherited in Tocharian with an ancient Indo-European 3 sg. zero-ending, as in ch. II §§3-4. The expected reflex of an inherited secondary *-t would be zero after a vowel; hence in the 3 sg. forms like B preterite kauta (kautā-ne) A kot (kota-ṃ), B optative yāmi (yamī-ne) A yāmi-ṣ we may reconstruct earlier pret. *-ā-t opt. *-ī-t, genetically comparable to Osc. subj. -ad, Lat. (uel)-it. But since an absolute final *-ā is preserved in B on the evidence of śana 'woman, wife' [A śäṃ] : OCS žena (*g^{w}enā), cf. Lane, GGA 214.121 (1962), it is possible to reconstruct a preterite 3 sg. *-ā, and opt. *-ī, showing the bare stem with zero-ending. If B śem is correctly equated with Ved. (a)gan, as is probable, the final -m agrees more readily with *g^{w}em than with *g^{w}em-t, for which we expect an Indo-European assimilation -mt > -nt (cf. agan and Arm. ekn). But the -m is also conceivably after -m- of the other forms of the paradigm.

There is similarly no trace in Tocharian of the athematic 2 sg. primary ending *-si. (For East Toch. 3 sg. -ṣ see below on the thematic paradigm.) Present, subjunctive, and optative show in both languages only the ending -t, to be derived from earlier *-ta, IE *-tə̯o. This ending appears to have spread everywhere from an original

locus in the thematic present and the optative, as well as the earlier perfect. Cf. Hitt. 2 sg. pres. mid. -tta(ti), and Ved. 2 sg. perf. -tha. The secondary athematic 2 sg. -s may be combined with this ending in Toch. 2 sg. pret. B -sta A -ṣt (Krause-Thomas §462), as in Gk. ἔφησθα, ἦσθα; but here the -st- might also admit of other explanations, cf. Hitt. -šta on the one hand, Lat. -istī on the other.

§5. The verb 'to be' shows the root B nes-, A nas-. Pedersen's etymological comparison with Gk. ἔνεστι (Toch. 161) is surely correct. It is anchored by the morphological evidence of the 'athematic' (ch. I) inflexion in B and the gerundive in A nasäl < *(n)es-lo- (cf. Hitt. 1 sg. ipv. ešlit, ešlut for the form?), and by the parallelism of Gk. ἔνι = ἔνεστι with the 'short' forms of A with enclitic pronoun nä-ṃ, nä-m (Krause-Thomas §354, 2).

B nes- functions as the substantive verb. In the function of the copula we have the forms 3 sg. ste, before enclitic star-ne, 3 pl. stare and skente, before enclitic skentar-ne. Formally, ste and star could reflect ancient 3 sg. middle forms *st(ə)-o, *st(ə)-or of the root *stā- (*steH₂-), formed exactly like *d(ə)-o in Ved. á-da[t], on which see ch. VIII §8. The 3 pl. stare shows the preterite active ending, and may be analogical. The alternant 3 pl.

forms skente, skentar-ne I would derive from *s-sk-onto(r), showing zero-grade of the root *es-, and the suffix -ske/o- with the archaic middle inflexion discussed in ch. V §8. Note Gk. ἔσκε, OLat. escit (with full grade root and active endings), already compared with these Tocharian forms in 1912 by Meillet, MSL 18.28. Zero-grade root is proper for the suffix -ske/o- cf. the type of Skt. gacchati < *$g^{w}m$-ske-. For the reduction of the root to a single consonant note Hitt. zikk- (spelled zik- in Old Hittite) = /t-sk-/, iterative of dai-.

§6. The special endings of Krause-Thomas' Group II are distinct only in the singular of the imperfect and the (genetically identical) optative, and that only in West Tocharian. Cf. Krause-Thomas §§392, 400, and especially Lane, Lg. 29.278 ff. (1953), 35. 157 ff. (1949), 38.245 ff. (1962), for discussion of views on the history of the stem formations. The imperfect is normally built on the present stem by suffixation of the optative sign -ī- in B; A shows different formations, probably not old. The optative in both languages is built on the subjunctive stem. Where the present or subjunctive stem final is -ā-, the contraction product of -ā- plus the optative sign -ī- in B is -oy-, cf. 3 sg. impf. ĩyoy from iyā- 'einherfahren' : Ved. yā-.

East and West Tocharian agree in only two imperfects, both of which are anomalous and likely to represent an inheritance. They are from the roots i- 'to go' and nes- [A nas-] 'to be'. The forms are, in the singular,

B	A	B	A
yaim	yem	ṣaim (ṣeym)	ṣem
yait	yet	ṣait	ṣet
yai (yey)	yeṣ	ṣai (ṣey)	ṣeṣ

In both languages the plural shows the normal athematic present endings, suffixed to the stem as it appears in the 3 sg.; the same holds for the other optative (and B imperfect) paradigms. The endings of A are furthermore in the singular likewise those of the athematic present in A, -m -t -ṣ, but agreeing with B in 1 and 2 sg.

We have seen in §2 that the present of the verb 'to go' (B 1 sg. yam) is basically thematic, and most closely kin to Hitt. thematic iya-. Since it has been shown that the Tocharian imperfect goes back to the Indo-European optative, we should expect a thematic optative stem *i(ə)-oi- from the thematic present *i(ə)-e/o-. I suggest that the stem B yai- (sometimes yey-) A ye- reflects precisely this thematic optative *i(ə)-oi-, rather than

precisely *-oi-mi, a replacement probably older than and independent of the spread of -m in the 1 sg. present in East Tocharian alone.

The 2 sg. -t of both languages is probably a direct inheritance from Indo-European *-oi-tạo, comparable to Skt. 2 sg. opt. mid. -ethās < -etha + as. See ch. XVI for fuller discussion. The relation Toch. active = Skt. middle is precisely that of Toch. 2 sg. pres. active B yat [A yät] = Hitt. 2 sg. pres. middle iyatta(ti) 'you go'.

In the 3 sg. B shows a zero-ending, and A the normal present -ṣ. For A -ṣ see below on the thematic paradigm. The zero-ending of B has been derived from IE secondary *-t, which would regularly disappear. On the other hand we must reckon with the possibility of either an original zero-ending, simply 3 sg. *-oi, or an original ending -s, 3 sg. *-oi-s (cf. Ved. 1 sg. yeṣ-am), since final -s is likewise lost. See the conclusion of ch. XVI.

§8. We may now pass to the thematic conjugational type in the two Tocharian languages. This is found most clearly in classes II (-e/o-) and VIII (-se/o-) in both languages, as well as in most persons of class IX (-ske/o-) in West Tocharian. The canonical distribution among the persons of the thematic vowels -e- and -o-,

as in Greek, is reflected by the distribution of the presence or absence of palatalization of the root or stem final consonant. The active paradigm of B er- A ar- 'call forth', a *-se/o- verb of cl. VIII, is as follows:

B	A
ersau	arsam
erṣt(o)	aräṣt
ersäṃ	aräṣ (aräṣṣ-äṃ with enclitic)
ersem(o)	arsamäs
erścer	aräś
ersem	arsäñc

For the 3 sg., cf. also the class I (-e/o-) verb āk- 'lead' : Lat. agō etc., B aśäṃ (aśan-me with enclitic) A *aśäs. A aräs shows anaptyxis from *arṣ-ṣ. The 2 and 3 sg. have stem-final -ṣ from IE *-se-, and root aś- from *age-. The 1 and 3 pl. have stem-final -s from IE *-so-; 2 pl. B -śc- is morphophonemically from -ṣc- < *-se-te-, and A aräś shows anaptyxis from *arś-c, also from -sc < *-se-te. On the evidence of this palatalization in class VIII, the restoration of A 2 pl. *āśäc (āk- 'lead') in class II is surely preferable to *ākäc (both in Krause-Thomas §481). The model for the latter, A 2 pl. ṣmac 'ihr sitzt', shows the common depalataliza-

tion of -m-.

§9. Of the desinences themselves, East Toch. 1 sg. -m has already been explained as reflecting *-mi (§3), and diffused throughout the present system from the athematic stems in -ā- and -nā-. The West Toch. 1 sg. -au is of different origin, pace Krause-Thomas §461; as shown first by Pedersen, Toch. 141, and defended by Lane, GGA 214.128 (1962) and Anc. IE Dial. 219, the ending -au reflects stem -ā- + 1 sg. *-ō, the inherited thematic ending. Like A -m, the form -au has been diffused from the stems in -ā- and -nā-, e.g. B 1 sg. class V (subj.) iäkau 'I will see', class VI kärsanau 'I know' with the same ending as class I ākau, class VIII ersau. The thematic 1 sg. *-ō is in fact continued directly, without preceding -ā-, in the 'athematic' class I subjunctive 1 sg. -u : āyu 'give', kewu 'pour', yoku 'drink', teku 'touch' etc., Krause-Thomas §401, Krause, WToch. Gr. §119. For the thematic character of the Tocharian 'athematic' class I cf. §2 above. In all of these forms we should see the reflexes of the archaic Indo-European thematic 'éventuel' : cf. respectively Hitt. ḫi-conjugation p-iḫḫi, Gk. χέω, Hitt. athematic eku-zzi, and Goth. tekan.

The preservation of thematic -u < *-ō in the subjunctive as

against its renewal as -au < *-ā- + *-ō in the indicative is a good example of Kuryłowicz's fourth law of analogy (Esq. ling. 79): the subjunctive with its secondary function preserves the more archaic form. For the phonology of *-ō > -u cf. B ku 'dog' : Lith. šuõ, OIr. cú. That West Tocharian shows a basic 1 sg. in -u < *-ō as against East Tocharian -m < *-mi is no greater a 'discrepancy' (Lane, Anc. IE Dial. 219) than that between Irish 1 sg. -u and Welsh 1 sg. -f (-m) at approximately the same time (6th to 8th cent. A.D.) at the opposite limit of the Indo-European speaking world.

The thematic 2 sg. -t with preceding palatalization reflects *-e-ta, IE *-e-tḫo. This desinence is of particular importance because it shows the coexistence within the same thematic paradigm of a 1 sg. *-ō and a 2 sg. *-eta in Common Tocharian. When both endings are recast in their Indo-European form, we get a partial paradigm

sg.	1	*-o-ḫo	>	*-ō
	2	*-e-tḫo	>	*-eta,

which is identical (save for the quality of the thematic vowel in the 2 sg.) to that of the Hittite thematic mediopassive and ḫi-conjugation in its basic form:

sg. 1	*-o-e̯o	>	-abba
2	*-o-te̯o	>	-atta.

§10. The 3 sg. shows consistent palatalization of the root final consonant before the thematic vowel in both languages; it is therefore securely reconstructible as IE *-ĝ-; Ā- < *age- : Lat. agit, Gk. ἄγε-ι. From here the two languages diverge: A -s̯, B -m̯. Krause-Thomas suggest that the ending in A is a reflex of IE 2 sg. *-(e)si, and explain the form in B as the ending of the 3 pl. Neither of these is convincing, or even plausible; though I accepted the first interpretation in form (in function rather differently) in Celt. Vb. 104; I would now renounce it (along with the comparisons adduced by Krause and myself) and return to the original interpretation of these forms in both languages proposed by Pedersen, Koch. 142: 'Wir werden also das [-m̯] und das [-s̯] als enklitische Elemente zu betrachten haben und im vorhergehenden Vokal den Auslaut der ererbten Verbalform sehen.' Pedersen rightly connects the endings in question with the 'notae augentes' -m̯ and -s̯ of the demonstrative pronouns B tem̯, A tam̯ (IE *to[d] + m-), A tä̆s̯ (IE *to[d] + s-); the restriction of -s̯ to A both in the pronoun and in the 3 sg., is too striking to be mere chance. The element -m̯ (i.e. -n) of B, and

common to both languages in the pronoun, is probably the same element that forms the suffixed pronoun (oblique) 3 sg. B -ne, A -m. Etymologically, the suffixed pronominal elements in the two desinences B -m (i.e. -n), A -s, as well as the demonstrative pronoun increments AB -m (i.e. -n), A -s, are doubtless to be compared with the Indo-European pronominal stems *no- and *so- respectively.

The resultant analysis, due to Pedersen, places Tocharian in the same Indo-European tradition of suffixed 3 sg. forms as exemplified by Hitt. aki-aš, eszi-at, OIr. -som, Slav. -tъ, and OPruss. -ts; on which see ch. XV §§2, 15 below. The assumption of suffixed 3 sg. subject forms in Tocharian may be compared with the existence of suffixed object forms in both languages; evidently a Common Tocharian syntactic feature. Further afield, we may note the existence of suffixed object pronouns in Hittite, Old Prussian, and Celtic.

Since a final -t is lost in Tocharian, there would be no difficulty in assuming with Pedersen an older *-et, so long as the addition of suffixed pronouns is assumed to be later than the loss of *-t. But an original thematic 3 sg. form with zero-ending *-e would have the same phonetic reflex. The parallelism with the thematic paradigms of Greek, Celtic, Balto-Slavic, and Hittite, which never had a *-t in the thematic type, indicate the choice of the

simpler reconstruction *-e. We are left with a paradigm for the singular of the thematic verb in Common Tocharian which while ostensibly of the active voice, coincides with the Hittite middle:

*-o-e̯o	>	*-ō	cf. Hitt. -ahha
*-e-te̯o	>	*-eta	-atta
*-e	>	*-e	-a.

It is this single language, isolated as it clearly was for a long period of its prehistory from other Indo-European dialects, which preserved for the longest time the original form of the Indo-European thematic flexion.

§11. The paradigm in the singular as reconstructed above is common to both Tocharian languages; in the plural, they diverge. B 1 and 3 pl. -em(o) and -ẹm are surely from *-o-me/o and *-ont, identical with the secondary endings of cognate languages. A shows 1 pl. -(a)mäs, which must be a Tocharian-innovated primary ending paralleling, but not identical to, Ved. -masi. East Tocharian shows the athematic (ch. I) 3 pl. ending -iñc, which is plausibly derived from athematic primary *-enti. This originally athematic primary ending spread in A to all 3 pl. presents in A, just as athematic

primary 1 sg. *-mi did. Krause-Thomas §355 would suggest a bizarre preform of thematic vowel plus athematic ending, -a + iñc < *-o + enti, to explain the East Tocharian thematic 3 pl. -eñc. But since -eñc appears likewise in the -ā- and -nā- verbs (ch. V, VI), it is more likely to have been generalized in all verbs from -(n)ā + iñc, replacing *-n(ə)-onti. Compare the 1 sg. in B -au < *-ā + ō, with a similar generalization from the verb stems in -(n)ā- before vocalic ending.

The relation 3 sg. *-e, 3 pl. *-ont (i.e. the secondary, 'injunctive' ending), with a 1 sg. in *-ō, recurs exactly in the Old Irish thematic conjunct 3 sg. ·beir, 3 pl. ·berat, 1 sg. ·biur, and in the OCS and ORuss. 'short' forms 3 sg. -e, 3 pl. -ǫ(-u), and 1 sg. -ǫ(-u) < *-ō + m.

The 2 pl. shows a -c(-) common to both A and B, which reflects IE *-te, thematic *-e-te. In B this ending was further suffixed by an r-element, of obscure origin.

§12. Here we may treat two wholly isolated and anomalous preterite formations in Tocharian, both Indo-European inheritances: those of the roots käm- 'come' and lä-n-t- 'go out'. Forms of the first in B are

sg. 1	kamau	pl.	kmem
3	śem		kamem, e-kmem

The third persons have been correctly referred by Pedersen, Hitt. 184 (cf. also Lane, Lg. 35.174 (1959) and Indogermanica [Festschrift Krause] 74), to athematic root aorist forms *g^{w}em-(t), *g^{w}m-ont; cf. Ved. agan, agm-an, §2 above, and ch. II §19. The very archaic apophonic root precludes the interpretation of these forms as a thematic aorist, with Krause-Thomas §452. They compare Lat. uēnit (§29, .2), but the long vowel of the latter is clearly secondary (cf. Osco-Umb. bĕn- and ch. XI §5 above). The first persons sg. kam-au and pl. km-em show the regular thematic present endings: -au < *-ā- + -ō, -em < *-o-me/o. This coexistence of 1 sg. *-ō and 3 sg. *-t (if the latter was indeed present) in the same paradigm recalls the same feature in the Celtic paradigms derived from the s-aorist as well as the present of the substantive verb (ch. XII §6), and especially the Latin "semi-thematic" types eō it, uolō uolt, ferō fert (ch. XI §§15-17).

The preterite paradigm of lă-n-t- 'go out' shows a mixture of present and preterite endings:

B	latau		A	lcā	
	lät	latso			
	lac	latem		läc	lcär

The paradigm is basically that of a "thematic aorist", and the verb should be compared to Gk. λαθεῖν (λανθάνω), as suggested by Pedersen, Toch. 173. The 3 sg. lac (läc) reflects *lat-e; it is the only thematic 3 sg. which has not been suffixed by a pronominal element. Note especially the identity in A of 3 sg. ind. läc and 2 sg. ipv. p-läc, with archaic palatalization (Krause-Thomas §422). Both reflect *late; cf. Gk. λάθε in the same two functions. The 3 pl. latem < *lat-ont, like kamem; A lcär and 1 sg. lcā, B 2 pl. latso and 3 du. ltais have generalized the productive preterite endings. It should be noted that there is not a direct connection between this Tocharian type and the thematic aorist indicative of Greek and Indo-Iranian. The latter show the innovated endings *-om *-es *-et (ch. VII §1), whereas the Tocharian verb has the regular thematic present endings: 1 sg. *-ō, 3 sg. *-e. Consequently, allowing for the secondary -a- before the personal ending, B 1 sg. latau should be equated with the Gk. 1 sg. aor. subj., Hom. λάθωμαι. Both are reflexes of an ancient Indo-European thematic éventuel (ch. IV §9).

It is noteworthy that the aorist subjunctive of λανθάνω in

Homer is more frequently middle, 'forget', than active 'be hidden'. We have the formulaic ἀλκῆς τε λάθωμαι (Z 265, X 282), λάθωνται (K 99), and λάθηται (ι 102), all in archaic verse-final position, beside 2 examples of λάθῃσι (X 191, μ 220), of which only the latter is verse-final. The middle voice of λάθωμαι should be correlated with the original Indo-European middle form of the thematic conjugation (1 sg. *-ō < *-o-o = Hitt. mid. -ahha) here, as in the Greek middle future and aorist subjunctive in -σομαι beside Hitt. -sa-hhi. Cf. ch. V §10.

Pedersen's etymological connection of Toch. lä-n-t- with Gk. λανθάνω has frequently been questioned. But in favor of it can be further adduced the possibility of comparing the highly irregular West Tocharian subjunctive forms 2 sg. lat, 3 sg. lam directly with the Hesychian gloss λῆτο· ἐπελάθετο (also λῆτο· επε<λά>θετο). For a less convincing explanation see Krause-Thomas §415. For the semantics Pedersen ingenuously invoked the passage 'verschwinden' > 'weggehen'; but λανθάνω does not mean 'verschwinden'. Rather we should take the middle sense 'forget' as the basic one in Greek (cf. nominal λήθη); the semantic passage is 'go away from' > 'forget'. The Greek middle takes a genitive-ablative object (ἀλκῆς τε λάθωμαι), which may be syntactically equated with the ablative construction of Toch. lä-n-t-: B ostmem ltu = A waṣtäṣ lantu 'aus dem Hause gegangen', A riyäṣ läc 'aus der Stadt ging er heraus', B ostamem lnaskem 'wir gehen aus dem Hause' (cf. Krause-Thomas §80).

§13. For the regular preterite we may cite the paradigms of kaut- [A kot-] 'split' (pret. ch. I) and prek- [A prak-] 'ask' (pret. cl. III in -s-, with partly divergent endings), from Krause-Thomas §495.

	B	A
cl. I	kautāwa	kota
	kautāsta	kotaṣt
	kauta (kautā-ne)	kot (kota-m)
	kautām(o)	kotmäs
	kautās(o)	kotäs
	kautāre	kotar
cl. III	prekwa	prakwā
	prekasta	prakäṣt
	preksa	prakäs
	prekam	prakmäs
	*prekas	*prakäs (?)
	prekar	prakär

We noted in ch. XIII §22 that the Tocharian preterite, like the Italic perfectum, represents a conflation of two earlier aspecto-temporal categories: aorist and perfect. The -ā̆-

preceding the endings proper is doubtless an old aorist sign, similar in origin to the *-ā- of the Baltic preterite and Slavic aorist stem. As such, we should expect it to have shown athematic endings of the -m -s (-t) set. The 3 sg. B -a A zero probably reflects this old aorist final *-āt or *-ā with zero-ending (cf. §4 above); in class III the same final *-ā(t) has evidently been suffixed to an older 3 sg. of the structure root + s, cf. Celt. Vb. 68.

The -w- of B 1 sg. -wa and A cl. III -wā in all likelihood contains the same element *-u-, -u̯- as we have in Hitt. -u-n, Luv. -wi, and Lat. -u-ī. But the precise status of the -ă following it is uncertain; cf. Krause, Corolla Ling. 137-44 for possible suggestions. Krause has also suggested that A cl. I 1 sg. -ā reflects IE *-ām (Toch. Elem. §461), though the vocalism is uncertain. In any case the -w- is probably an element from the older perfect. The same may be true of 2 sg. -sta [A -st], cf. §4 above.

In the 1 pl., B -m(o) and A -mäs show the endings discussed already. In the 2 pl. both show an ending -s which is obscure; cf. Krause-Thomas §466 and Pedersen, Toch. 147. The same ending is found in the imperative.

In the 3 pl. we find regularly A -r, and in B both -re and -r. The ending -r in B, while normal only in class III, is found sporadically also in class I; since the characteristic -s- is also

absent from class III in the 3 pl., it would appear that the repartition of the two endings is a secondary development. Krause-Thomas §467 compare B -re to Lat. -ēre, and B -r to Hitt. -er, -ir. We may recall that the Latin ending -ēre is particularly frequent in Plautus before a vowel, suggesting the possibility of a Latin form *-ēr beside -ēre; cf. ch. XI §11 above.

§14. There remain the imperative endings, group IV; only second persons occur. The normal endings are sg. zero, pl. -s; the prefix p(ä)- has been discussed in ch. XIII §23 above. The zero-ending of the singular reflects IE *-e (Gk. φέρε, Att. λαβέ) in B päklyaus 'hear' and A plāc 'go out' with final palatalization; the former built on the thematic present, the latter on the thematic aorist. Note the identity of 3 sg. indicative and 2 sg. imperative ($\Gamma_1 = \Gamma_2$, ch. IX §1). In most other cases the imperative is built on the preterite stem in final -ā, and the 2 sg. reflects an Indo-European zero-ending comparable to that of Aeol. δάμνᾱ. Here as well we have the identity 3 sg. indicative = 2 sg. imperative. The active plural is, as we have noted, obscure.

In West Tocharian we find occasionally a 2 sg. ending -e (2 pl. -e-s); cf. Krause-Thomas §428 for examples. The form pe-te 'give' has been compared by Winter (apud Kammenhuber, KZ 77.47 n. 4

[1961], where the form is misprinted as pate) with Hitt. ipv. peda, presupposing *dō; this view is followed by Ivanov, Obšč. sist. 76 n. 67, noting Russ. podaj. The imperative prefix pe- may reflect either *pē- (cf. Hitt. pe-) or *po- (cf. Slavic po-). But it is unlikely that -te goes back to *dō, for which we should expect W. Toch. *-tu; cf. §9 above. I suggest that we interpret -te as reflecting *d(ə̯)o, a 2 sg. imperative identical in type with the 3 sg. indicative *st(ə̯)o which we have invoked to explain the copula ste in §5 above. The 3 sg. *d(ə̯)o is attested in Ved. á-da[t]. The o-vocalism in the thematic imperative recurs in Hitt. -iya and the -a (beside -e/i) of the thematic ḫi-conjugation. Lat. cedo (pl. cette) conceivably reflects the same form.

In the same fashion we may derive the imperative ptälle-ñ from *tl̥-n(ə̯)o. For the 3 sg. *-n(ə̯)-o of verbs with the suffix *-nā- (*-neə̯₂-) cf. Ved. gṛṇe from primary *-n(ə̯)-oi. The Hittite thematic ḫi-conjugation suffix -(n)na-, and indeed the Indo-European thematic suffix *-ne/o- (cf. ch. V §11), are to be explained as developments of a basic 3 sg. form *-n(ə̯)-e/o beside the full-grade athematic suffix *-na- (-neə̯-) of other languages. Note that the relation of Hitt. them. -(n)na- (and W.Toch, *-ne in ptälle) to Ved. athem. -nā- is identical with that of Hitt. them. iya- 'go' (and W. Toch. ya-m) to Ved. yā-.

XV. Balto-Slavic

§1. The history of the personal endings in the Baltic languages has been treated in extenso by Stang, in his fundamental Vergleichende Gramm. d. balt. Sprachen 405-421. The immediate prototypes of the Letto-Lithuanian endings, in principle appearing as such before the enclitic reflexive particle -s(i), are:

	thematic	athematic
1 sg.	-uo	-mie
2 sg.	-ie	-sie
3 p.	(-a)	-ti
1 pl.	(-a)-mẽ	
2 pl.	(-a)-tẽ	

In the absence of the reflexive particle the finals in long vowel are shortened, whence Lith. nešù, nešì, OLith. duomi, duosi. As everywhere in Baltic, the third person shows the same form in all numbers. The 3 p. -a is the thematic vowel; the ending proper is zero. For 1 and 2 du. -vā, -tā see ch. I appendix above.

Stang assumes acute intonation on the first and second persons, *nešúo *nešíe etc., but Kuryłowicz, Accentuation² 208, 327 more correctly assumes circumflex, *nešuõ *nešiẽ, as that alone phonologically proper to final syllables; the acute in internal syllables, hence reflexive *nešúo-si, *nešíe-si, is likewise automatic.

§2. Old Prussian shows somewhat less clear forms, given the ambiguities inherent in the transmission of this language. We have

thematic	athematic
(-a)	-mai
(-a)(-si)	-sei, -sai, -se
(-a) ~ (-a)-ts	-t ~ -ti-ts

-mai

-ti, -tei, -tai

Optional -ts in the 3 p. forms, which are archaisms in the Old Prussian tradition (Stang, 410), is an enclitic pronoun nom. sg. masc., Balt. *tas. Such forms reflect an old Indo-European syntactic feature, directly comparable to OHitt. verbal aki-aš 'he dies', ešzi-at 'it is', nominal ekunaš-aš 'he [is] cold'. Similar structures are found in Celtic and Tocharian, and as we shall see below, Slavic as well.

There is an apparent tendency in Old Prussian to generalize the 3 p. for all persons of the singular; cf. as druwē 'I believe', 2 sg. druwē tu beside druwēse tu, 3 sg. druwē, from the productive -ēja- type. Here -se in the 2 sg. has probably been secondarily affixed. W. P. Schmid, Balt. Vb. 4 ff., suggests that the commonly accepted explanation of the Old Prussian singular as showing a 3 sg. form generalized for all persons is incorrect, and that the three persons fell together by regular phonological development. Thus 1 sg. -a < *-ō. Stang formerly took krixtia 'I baptize' as a

genuine reflex of 1 sg. *-ō. Verbum 176, 225 n.2, but neither this view nor that of Schmid is noted in Vgl. Gramm. Vaillant, Gramm. comp. des langues slaves 3.8 likewise assumes 1 sg. *-ō > OPruss. -a. While possible in the 1 sg., it remains necessary to assume that thematic 2 sg. giwassi has been built on 3 sg. giwa; it cannot show the 2 sg. *-i, which Schmid assumes for Old Prussian. For this reason I am inclined to take the traditional view that the singular forms are all basically 3 sg. forms. But that OPruss. a is the regular reflex of IE and Balt. *ō seems clear from the equation OCS dasta : OLith. duosti : OPruss. dast, despite Stang, Vgl. Gramm.

§3. Of the athematic endings, 3 sg. -t(i) of Letto-Lithuanian and Old Prussian clearly maintains the Indo-European primary athematic ending *-ti.

Athematic 1 sg. Letto-Lith. -mie corresponds to OPruss. -mai, and doubtless reflects Balt. *-mai; for the phonology of Stang, Vgl. Gramm. 52-68. This ending is an independent creation paralleling that of Gk. -μαι and Toch. B -mai; it represents a contamination of the old perfect ending 1 sg. *-ai (cf. OCS vědě) with the old athematic 1 sg. *-mi (cf. OCS da-mь). As Stang points out, p. 315 and 406, this view of Endzelin's is confirmed by the fact that a large percentage of the old Lithuanian athematic verbs are stative-intransitives going back to Balto-Slavic and Indo-European perfects.

For Letto-Lith. 2 sg. -sie Old Prussian shows both -sai and

-sei (-sə, -si). Parallelism would induce us a priori to assume a Balt. *-sai like *-mai, built on the old athematic 2 sg. *-si with the final -ai; or even conceivably a crossing of *-si and *-tai like Lat. -is-tī. Stang prefers to suppose Balt. -sei, but the Old Prussian variant -sei can show the combined influence of the 3 sg. final -ei and the 2 pl. -tei beside 1 pl. -mai.

Both East and West Baltic have innovated in the form of the 1 and 2 pl. Letto-Lith. -mē, -tē have a long vowel in the reflexive after 1 and 2 sg., cf. Kuryłowicz, Accentuation² 208. The assumption of an original short vowel is further confirmed by the frequent dialectal and colloquial literary Lithuanian loss of the final vowel, giving endings -m -t. In the 1 pl. both Lithuanian and Latvian dialects show also forms with back vowel: Lith. -ma, refl. -mo-si, Latv. -ma, -mā-s. Allowing for the secondary character of the long vowel, these forms permit us to postulate basic endings -ma < *-mo, -te, which agree not only with cognate languages like Celtic *-mo, *-te, but with Old Prussian -mai -tei as well. The latter have affixed an -i to the original final, cf. Stang 417, which assimilated them to other members of the paradigm. Lith. *-me may either reflect an inherited apophonic doublet of *-mo, like Gk. -με(ν), or imitate the 2 pl.

§4. In the thematic type, 1 sg. -uo goes back to IE -ō (*-o-əo). Balto-Slavic shows the notable peculiarity, as against Indic, that thematic verbs may show an accentually mobile paradigm:

neš̃u nẽš̃a. Greek because of the recessive accent of the finite verb can give no information here. In this type the oxytone 1 sg. of Balto-Slavic (and Baltic 2 sg.) contrasts with the root accent of the remainder of the paradigm. Stang, Slav. Accent 107 and Vgl. Gramm. 482, is inclined to regard this situation as an archaism of Indo-European antiquity. If he is correct, then this feature should be correlated with the observation of Kuryłowicz, Apoph. 43, that the full grade of the desinences 1 sg. *-ə̯o, 2 sg. *tə̯o speaks for their being originally accented. Balto-Slavic *-ˈō could then directly continue *-ṓ, IE *-o-ə̯ó.

§5. For 2 sg. -ie Stang 407 (cf. Die Welt der Slaven 1.137 ff.) makes the important observation that the oldest Lithuanian form is -ai, preserved in archaic forms with fused reflexive particle like 2 sg. mekstai-si beside 1 sg. mekstuo-siu, rupinai-s beside rupinuo-siu. It is thus this -ai which is diphthongized to -ie-s, -i. On the origin of this ending see further below.

§6. In the thematic 3 sg. East and West Baltic agree in the basic ending -a. Beside the normal endings of OPruss. giwa 'lives', waidinna 'they show', archaic imma-ts 'took' (present in form, the preterite in ymm(e)i-ts), we have occasional forms in -ai, -e(i): powaidinne(i) 'means', eb-immai 'grasps'. These forms are best taken with Stang as originally proper to presents in 3 sg. -āja

(and -ināja), -ēja, with apocope to -ă̄i, -ĕ̄i (> -ē̆). But they have clearly spread beyond their original bounds.

The ending -a has almost universally been assumed to show the Indo-European thematic vowel, followed by the secondary 3 sg. ending *-t : a pre-Baltic *-at. The form does not agree with any cognate language; it is presumed to be derived from *-et via the generalization of the Baltic vowel -a- < *-o- everywhere in the thematic paradigm. Cf. Stang, Vgl. Gramm. 407.

Yet it is not sufficient to say merely that the o-variant of the thematic vowel was generalized. We know the critical position in the paradigm of the 3 sg., and expect a priori that if a generalization does take place, it will be in favor of the variant found in the 3 sg., i.e. e rather than o. This is the case in all the instances known to me of such a generalization in Indo-European languages: the vowel is e. Cf. Armenian beremkʿ after berē, Slavic vezemъ after vezetъ, Hittite daškiwani after daškizzi. The -e- of the West Tocharian e-present and e-subjunctive goes back to the IE stative suffix *-ē-, and has nothing to do with the West Tocharian thematic vowel -e- < IE *-o-, cf. Celtic Verb 70-71. Gothic 2 and 3 sg. middle -aza, -ada have not generalized the o-grade beside Gk. -ε[σ]ο -ετο; they are built on an inherited 3 sg. middle -a of Pre-Germanic, equatable with Hitt. 3 sg. mid. -a < IE *-o. Thus -aza ← 3 sg. -a + -za. The renewal of the ending in Germanic, -a → -ada, is directly comparable to that of Hittite -a → -atta and Vedic -a[t] → -ata, and it is doubtless in the light of this morphological transformation that the tradi-

tional phonological irregularity of the final vowel of Gmc. -*da* < IE -*to* is to be explained.

Lithuanian *vẽza* after *vẽzame* is thus rather more odd than traditionally assumed. We must rather take 3 sg. *vẽza* as the basic member of the paradigm, and its ending -*a* original. The 2 pl. *vẽzate* after *vẽza* is entirely regular, and in complete accord both with our general notions of paradigmatic change, and with attested changes in Baltic: OPruss. 1 pl. *giwammai lāikumai turrimai* after 3 p. *giwa lāiku turri*, cf. Endzelin, *Altpreuss. Gr.* §222. The problem is to explain the -*a* of *vẽza* as an old form.

§7. We have seen in the preceding chapter that the Tocharian thematic paradigm *ākau āśt(o) āśäm* goes back to a basic set of endings **-ō *-eta *-e*, from earlier **-o-e̯o *-e-te̯o *-e*. The endings proper **-e̯o *-te̯o* zero are added to the thematic vowel in the *e*-grade; the change *e* > *o* before *e̯* is automatic.

In the Hittite thematic mediopassive and *hi*-conjugation, the basic endings are -*ahha* -*atta* -*a*. They go back to an earlier **-o-e̯o -o-te̯o -o*, and are thus formed exactly like the Tocharian endings, save that the thematic vowel has the *o*-grade. Cf. ch. VIII §§ 4, 5.

Beside this type of paradigm, we have shown in ch. VIII §§ 1-2 that there existed a thematic paradigm with zero-ending also in the 2 sg. The basic form was **-o-e̯o *-e *-e*; with the generalization of -*i* in the 2 sg., we have the thematic paradigm **-ō -ei -e*

underlying that of Greek, Celtic, and as we shall see presently, Slavic.

The pattern that emerges is clear; and there is a set missing:

-o$\underset{\frown}{e}$o	-o$\underset{\frown}{e}$o
-et$\underset{\frown}{e}$o	-ot$\underset{\frown}{e}$o
-e	-o
-o$\underset{\frown}{e}$o	
-e(i)	
-e	

I suggest the missing set is specifically

-o$\underset{\frown}{e}$o
-o(i)
-o,

and that this paradigm is the direct antecedent of the oldest Baltic thematic present, as established by Stang:

-ō	>	neš-ǵo(-s)
-ai		neš-ie(-s)
-a		nẽš-a(-s).

The postulated thematic 3 sg. *-o, i.e. the o-grade vowel and zero-ending, is not isolated in Indo-European languages. Not only is it

attested (in the middle function) in the Hittite type 3 sg. ney-a; it is significantly found in Greek as well, and in the active function, in the -o of the archaic compositional type Hom. φυγο-πτόλεμος, ἁμαρτο-Fεπής, the apophonic counterpart of ἀρχέ-κακος. Cf. ch. VI §11, ch. IX §4 above.

The preservation of both apophonic forms of the ending, *-e(i) ~ *-o(i), in the single dialect area of Balto-Slavic, is perfectly in line with the preservation of both in Greek, ἀρχε- ~ φυγο-. Compare also 3 pl. *-ent in ῆεν but *-ont in Aeol. εον; Hitt. 2 sg. ipv. -ški < *-ske but -iya, mid. -iya-hhuti < *-io; and in the nominal system, OLat. gen. sg. nominus ~ nominis < *-os ~ *-es.

It will be noted that this reconstruction of the Baltic thematic paradigm is in complete accord with the theoretical views, if not the details of the reconstruction, of V. N. Toporov in his important contribution 'K voprosu ob evolucii slav. i balt. glagola', VSJ 1961.5.35-70 (dated 1957; cf. especially pp. 59-63 on the Baltic inflexion). Toporov reconstructs a set of endings -ō -(ĕ)i -zero, which is as it were 'athematic thematic', since the thematic vowel is incorporated in the 1 and 2 sg. It was Stang who made possible the correct restoration of the 2 sg. (Balt. -ai), which permits its integration into a symmetrical structure -o -ai -a exactly paralleling -ō -ei -e.

§8. For the remaining Baltic paradigms Toporov, loc. cit. and IJSLP 5.31 ff. (1963), cf. Stang, Vgl. Gramm. 421, is inclined

to the view that Baltic never had the secondary ending, -m -s -t. Stang points out the -s of the Old Prussian imperative 2 sg. (immais 'take'), but the -s is lacking in OLith. 2 sg. ipv. -i/zero, refl. -ie-s (Dauksa kelë-s 'arise', atveri 'open'), for which Stang's explanation, Vgl. Gramm. 426, does not seem cogent. In the Balto-Slavic imperative 2 sg. and in the 3 sg. permissive, type Lith. te-nesiẽ, I would regard these two persons as containing a zero-ending *-oi; see in greater detail in the chapter on the thematic optative below. The -s of OPruss. -ais must be a secondary development, for which cf. Toporov, VSJ 1961.5.61.

The situation in the preterites in -ā- and -ē-, however, is different. Here the athematic inflexion -m(i) -s(i) -t(i) is well established in cognate languages: cf. the Italic and Celtic modal -ā- and the Greek aorist in -η-, with secondary endings, and the Germanic third class of weak verbs in -ēn, with primary endings. For this reason it is historically justified to derive Lith. 3 sg. pret. -o, -ė from Pre-Baltic (or Pre-Balto-Slavic) *-āt, *-ēt. It is the identification of the zero-ending arising from the loss of *-t with the more ancient zero-ending in the thematic present, which permitted the formation, by the suffixation of the overt present endings, of 1 and 2 sg. pret. -au -ai, -iau -ei, from -ā + uo -ā + ie, -ē + uo -ē + ie. The development is formally parallel to the creation of the Old Irish conjunct paradigm of the substantive verb: ·táu ·taí ·tá < *(s)tā + ū *(s)tā + ī *(s)tā-t (= Ind. sthāt).

§9. In Old Prussian we have 3 sg. (= 1 and 2 sg. in use as well) forms in -a and -ē, with their phonetic variants -u, -au and -i, -ei, significantly frequent with enclitic subj. -ts or obj. -din. These forms are probably to be taken as direct reflexes of Balt. *-āt, *-ēt, identical with Lith. -o, -ė. Beside these there are a number of forms in -ai, like signai 'blessed', as well as the old radical forms dai, dai-ts, 'gave', postăi 'became', and bĕi, be 'was'. Cf. Stang, Vgl. Gramm. 375 ff., 381, 391. He takes these forms, doubtless correctly, as showing apocope for -āja < *-ājat, noting Lith. 3 sg. pret. žegnója : signai.

Specifically I would suggest the old radical verbs as the original locus of the replacement of pret. *-āt by the yod-enlarged -ā-jā-t; in these primary derivatives the final -ā (and -ē) is part of the root. Thus *dā-jāt > dai, *stā-jāt > postai, *bē-jāt > bei (cf. OCS bě, bexъ). Enlargement by -ja- (pres.), pret. -j-ā- is a characteristic Balto-Slavic treatment of Indo-European monosyllabic roots in long final vowel, both present and aorist, cf. Meillet-Vaillant, Slave commun² §229-230; Stang, Verbum 44,93,125 ff. The type is that of OCS dajǫ, aorist stem daja- : OPruss. dai; stajǫ, aor. stem staja- : OPruss. postai (Lith. pret. pastójo), further dějǫ, děja- : Lith. pret. dė́jo to OLith. desti, Mod. dė̃da. Latvian shows pret. gãja to iêt. In all these cases the yod-formation replaces an old athematic aorist, cf. Ved. dāt, sthāt, dhāt, gāt; in Lith. jója, pret. jójo it replaces an old athematic present, cf. Ved. yáti.

For this Balto-Slavic type and its apparent Hittite cognates

see in detail, Vaillant, Gramm. comp. 3.263 ff., and especially Ivanov, Obšč. sist. 77-112, though I cannot accept the latter's thesis that the yod is a laryngeal reflex; compare rather the yod (-i̯e-/-i̯o-) : zero (athematic) suffix alternation noted above in ch. IV p. 14n. It is not legitimate to see in OPruss. dai, postai evidence for an "Indo-European second series of verbal forms', as does Ivanov, o.c. 136; the implied equation of OPruss. dai 'gave' with Hitt. dāi 'takes' is attributable to 'die Sirene des Gleichklangs', Ivanov's invocation of the use of the Hittite presents dāi and pāi 'v plane prošedsego vremini' in two parallel passages of the Hittite Laws is not a valid argument for the equation, since the Hittite passages present a problem which is fundamentally syntactic rather than morphological. I §9 (after A, in OHitt. ductus) karū 6 GIN KUBABBAR piškir ḫuninkanza 3 GIN KUBABBAR dāi ANA ÉGAL 3 GIN KUBABBAR dašker 'pflegte man früher 6 Sekel Silber zu geben: der Verletzte nimmt 3 Sekel Silber, in den Palast pflegte man 3 Sekel Silber zu nehmen.' (I §25 is virtually identical, and largely restored after §9.) The question is why the present tense is used here; it is not sufficient simply to state that the present tense means past tense, and therefore the form must be originally a past. In the contrast piškir, dašker versus dāi there are at least three variables in question: the oppositions preterite/present, plural/singular, and subjectless (man-Satz)/with overt subject.

§10. The Baltic future shows a paradigm in the singular

dúosiu

dúosi

duõs.

The first and second persons reflect a stem -sie/o, with the normal thematic endings; for -siu compare Gath. vaxšyā 'I shall address'. The 3 sg. duõs however must go back to an old monosyllable, as shown by the metatony (cf. also dẽs, etc.) and the shortening of u, i in bùs (bū́siu), lìs (lýsiu) etc.; cf. Kuryłowicz, Accent.² 209, 316n., Stang, Vgl. Gramm. 397 ff., Verbum 202 ff. But it is not possible to prove the former presence of a -t in the ending, *dō-s-t *b(h)ū-s-t etc.; we have the same metatony in the monosyllabic gen. sg. fem. Lith. tõs = Latv. tàs, < *tās. Cf. in the same sense Toporov, VSJ 1961.5. 60n. Hence it is possible that the 3 sg. future forms from monosyllabic roots in final long vowel like duõs, dẽs, bùs go back to sigmatic forms with zero-ending *dōs, *dhēs, *bhūs. In this case they could be compared directly to the archaic Vedic 3 sg. aorist forms like aprās (*plēs), apās (*pōs, cf. Hitt. paš- 'swallow'), (a)hās (*ghēs), discussed in ch. III §9. For the alternation -s- : -s + ie- in 3 p. : 1 and 2 p. cf. the preceding paragraph.

§11. It is noteworthy that Baltic shows a sigmatic future but no sigmatic preterite, and that Slavic on the other hand shows a sigmatic aorist but no sigmatic future. For byšęšteje 'future',

ultimately equal to Lith. fut. ppls. *būsiant-* cf. Stang, *Verb.* 95, 203. We may observe the relation in Italic, where Latin has only an *s*-perfect, and Osco-Umbrian only an *s*-future. The distribution is thus complementary; the fact and its significance are noted in Stang, *Vgl. Gramm.* 399. In view of this complementarity, it is tempting to equate the characteristic Baltic 3 sg. future forms from inherited monosyllabic roots in long final vowel further with OCS (2 and) 3 sg. aorist forms of the same roots:

Lith. *duõs*	:	OCS *da*	**dō̃-s*
bùs	:	*by*	**bhū̃-s*
ẽs (*ésti* 'eat')	:	*iz-ě*	**ēd-s*
dẽs	:	*vъ-dě*	**dhē̃-s*
lìs	:	*li*	**lī̃-s*

The Slavic forms do not require the postulation of a final *-t* any more than do the Baltic ones; and in this archaic sigmatic type with zero-ending, the identity 2 sg. = 3 sg. is confirmed by Hittite: 2, 3 sg. *dāš* 'took' = OCS 2, 3 sg. *da*. The parallel RV *aprās* < **plēs* is likewise 2 sg. at I 52.13 and VI 46.5 (*prās*), as well as 3 sg. (10x). The reconstruction with simple final *-s* in these Slavic forms is suggested as a possibility by Kuznecov, *Očerki po morf. starosl. jaz.* 97, and adopted, with full discussion, by Toporov, *VSJ* 1961 5.68. On the sigmatic forms of Balto-Slavic *ēd-* and cognates see Ivanov, *Obšč. sist.* 158-162.

The postulation of original Balto-Slavic *-s* in these forms

permits us to account directly for the three Slavic aorists in -stъ alternating with the rarer forms in zero above: dastъ, bystъ, ěstъ. They show the suffixation of the same element -tъ as the 3 sg. thematic present -e-tъ, which following Fortunatov I take as the pronoun *tos (v. infra, §15), at a time preceding the loss of final -s in Slavic. The genesis of Slavic -stъ is thus parallel to, but independent of, the creation of the Hittite endings -šta, -šteni (or Venetic -sto in vhagsto, donasto).

§12. We pass to the Slavic material. Aside from the treatments in the handbooks, cf. in particular, P. S. Kuznecov, 'K istorii form 3-go lica nast. vr. glagola v russ. jaz.', Slavia 25.175-83 (1956); in greatest detail for the whole of the paradigms, Očerki 84-103; V. N. Toporov, VSJ 1961.5.63-70. These schclars have surveyed the Slavic and comparative evidence in a new light; basing ourselves in part upon their findings, it is possible to show that the Slavic inflexional system in the verb accords in virtually every particular with the paradigmatic paradigm we have been led to reconstruct in other branches of Indo-European, especially Greek and Celtic.

Slavic, like Baltic, shows clear evidence for the inherited athematic present with primary endings, -mi -si -ti > Common Slav. -mь -sь -tь. Cf. jesmь, jesi, and ORuss. jestъ, OPol. jes'c' (Kuznecov, Očerki 94). Only the 2 sg. has been innovated,

with the composite ending athematic -sь + thematic -i (v. infra). The original form -sь is in any case plausibly attested in OCS podasъ (Kiev Frag., Kuznecov 91).

Together with these, however, there are also the shorter forms je 'is', ně 'is not', found both in Old Church Slavic and Old Russian. These forms can be most simply derived from *est, *nēst < *ne est, thus continuing the IE secondary, 'injunctive' ending *-t, with no apparent difference in value from the primary ending. The conservation of such fossilized archaisms in early Slavic is parallel to the conservation of jest', sut', and bog vest' in modern standard Russian. Cf. also Old Irish ní 'is not' < *nīst < *nēst < *ne est; clearly an old form since it shows the Common Celtic change ē > ī. Old Russian nětъ 'is not' (> Russ. net), found once in the Novgorod birchbark inscriptions beside several examples of nětъ, probably shows the same form ne suffixed by the pronominal -tъ. netъ with palatalized consonant would be an analogical refection after regular 3 sg. pres. -tь, just as are the ORuss. aorist forms dastъ, bystъ, ěstъ. Such an interpretation appears more likely than the assumption of a wholly irregular direct development něstъ > nětъ.

§13. The typical thematic paradigm in Old Church Slavonic is in the singular and plural

vez-ǫ	vez-emъ
vez-eši	vez-ete
vez-etъ	vez-ǫtъ.

In the 3 sg., however, we have to reckon also with two other forms: a) ORuss. vez-etь, with palatalized -t' preserved in south Great Russian dialects, and in part in Ukrainian and Byelorussian (which shows -t' > -c'); b) veze, with an ending -e attested sporadically already in the oldest texts of OCS (Zographensis and Marianus as well as Suprasliensis), Russian CS (Ostromirov gospel), and ORuss. (Novgorod birchbark inscriptions, where they outnumber those in -etь), and continued in part as the norm in most of the modern languages outside East Slavic. Correspondingly in the 3 pl. we have a) ORuss. -ytь < -ǫtь with palatalized final, and b) the endings without -tь or -tъ, OCS -ǫ, ORuss. -u.

Not one of the OCS forms, except the 2 pl. -ete, may be equated with the corresponding paradigms of Skt. vahami, Lat. uehō, Goth. -wiga etc.; to juxtapose these with the Slavic forms, as in Meillet, Introd.[8] 237, is quite illegitimate. But to equate ORuss. -etь and pl. -ytь with Skt. -ati -anti < *-eti *-onti (so even Kuznecov) is no more legitimate, since the dialectal restriction of these endings in Slavic would remain to be accounted for; nor is there any satisfactory way of explaining why *-etь *-ǫtь should have been eliminated in most of Common Slavic if they were genuine inheritances.

§14. It was Kuznecov who first showed clearly the primacy of the 3 sg. ending -e in Slavic; see the discussion in the works cited. Yet he still preferred to derive this *-e from earlier *-et; it was Toporov (loc. cit. 66-67) who observed correctly that the basic Slavic zero-ending was directly inherited: IE *-e. We can now equate the ending of the Common Slavic type veze, i.e. the bare thematic vowel -e and a zero-ending proper, with the same ending in the Greek compositional type ἀρχέ-κακος, and the Celtic ending *-e of the type OIr. ·beir.

An important argument for the existence of such a 3 sg. ending in the Slavic thematic paradigm is the OCS 3 pl. imperative, found only for the verb 'to be', but attested from several passages already in the oldest MSS (cf. Diels §108 Anm. 3): the form is bǫd-ǫ, from IE secondary *-ont. (To derive -ǫ from *-oint with Vaillant, Gramm. comp. 1.145, 217 is a pis#aller both in Slavic and in Indo-European, as Stang has shown.) The ending -ǫ may be equated with that of Lith. vẽžą etc., the old 3 pl. present with secondary ending *-ont, reinterpreted as nom. pl. m. participle (cf. Stang, Vgl. Gramm. 411 with references, as well as an unpublished paper by Cowgill presented to the Yale Linguistics Club on 12 Oct. 1964). It may further be equated with the *-ont of OIr. 3 pl. cjt. ·berat, the paradigmatic counterpart of 3 sg. ·beir < *bher-e, and which functions also as 3 pl. imperative (berat). Like other 'injunctive' forms in the imperative in other Indo-European languages, these simply preserve the oldest form of the present indicative of that language.

We may thus equate both numbers of the third person in the thematic paradigm in Slavic and Celtic, as continuing the Indo-European type intact:

3 sg.	bǫde	*beir	*-e
3 pl.	bǫdǫ	*berat	*-ont.

The type is Common Balto-Slavic; only the vocalism of the 3 sg. differentiates veze vezǫ from Lith. vẽža (vẽžą), for which we have cited parallels above.

§15. For the -tъ of the third person type OCS veze-tъ, vezǫ-tъ, I agree completely with Kuznecov, Očerki 95, that the most plausible explanation is that proposed already by Fortunatov in Izv. O. R. Jaz. Slav. 13 (1908), kn. 2.19 ff.: we have the generalization in both numbers of an originally optional 3 sg. suffixed subject pronoun *tos = OCS tъ, Lith. tàs, and especially OPruss. suffixed -ts. Stang's objection (Verb. 219, 232) that the Old Prussian suffixation of the subject pronoun is a syntactic Germanism (asti-ts 'ist es'), is not valid since the productive Old Prussian 3 sg. subject pronoun was tans, not t(a)s. We have thus a syntactic feature of Common Balto-Slavic date, continuing an archaic Indo-European type. It is of course possible that the Old Prussian and OCS forms are parallel and independent developments, in view of their respective dialect distribution, despite

the ending see below.

The 2 pl. -te presents no problem, being identical with the old ending *-te of Gk. φέρετε, dat. ipv. legite, Skt. ipv. bharata.

§17. The thematic aorist shows a paradigm in OCS

pad-ѫ	pad-omъ
pad-e	pad-ete
pad-e	pad-ǫ.

The clear connection of this type in Slavic with that of other Indo-European languages (cf. ch. VII §1, IX §6 above) makes it most plausible to reconstruct a paradigm *-om *-es *-et, *-omo *-ete *-ont, as in Greek and Indo-Iranian. The distribution of the thematic vowel is here the historically expected one. I cannot agree with Toporov in his suggestion that 2 - 3 sg. pade always had a zero-ending. Rather the history of the dialectal development of the thematic aorist type, as we have seen, requires that the starting point of the type be precisely 3 sg. *-e-t; only by this stage can we explain the further extension of the paradigm with the -m -s -t endings to form 2 sg. -e-s, 1 sg. *-o-m. If the identity of 2 and 3 sg. (as in pade) as against the 1 sg. (padǫ) corresponds to a widespread general linguistic feature, it is still quite possible for a language to develop such a structural feature over a period of time, by a quasi-teleological

evolution from an earlier structure with the two persons distinguished. Compare the development of a 3 sg. zero-ending out of an earlier system with overt 3 sg. in the Old Irish t-preterite, s-subjunctive, and s-preterite.

§18. We have then for the initial stage of Common Slavic a situation very similar to that of Greek: two thematic paradigms probably functioning as 'present' tense and narrative tense (= OCS aorist) respectively:

pres.	aor.
*-ō	*-om
*-ei	*-es
*-e	*-et

In the plural the opposition was neutralized, cf. Gk. λείπομεν ~ (ἐ)λείπομεν, (ἐ)λίπομεν:

*-omo

*-ete

*-ont

It is quite possible, following Stang, Vgl. Gramm. 384-388, that Baltic as well originally showed the same opposition of tenses and paradigms, but with pres. *-ō *-oi *-o. But the thematic was there swamped out by the spread of the -ā- and -ē-preterite.

The 1 sg. pres. -ō was further augmented by -m from the aorist, whence *-ōm, thus differing only by length from the aorist *-om; the subsequent changes to -ǫ and -ъ respectively disrupted the symmetry once again. The 2 sg. pres. *-ei was monophthongized to -i, and the loss of final -s and -t merged 2 and 3 sg. aorist into -e, identical with the 3 sg. pres. Yet the latter could maintain its distinctive present function by adopting the suffixed subject pronoun tъ, not occurring with aorist -e. At the same time the 3 pl. -ǫ in present function could in like manner be distinguished from aorist -ǫ. But that this suffixation of -t remained optional is clear from the preservation in numerous dialects of the shorter forms in the present.

The resultant paradigm of the thematic aorist was stable, and maintained the same form in OCS, though gradually giving way to the productive s-aorist outside the 2, 3 sg. The paradigm of the s-aorist in the first person was itself built on the 2 = 3 sg. in original *-s (sta < *stās, v. supra) by the suffixation of the endings of the old thematic aorist: 1 sg. -s-ъ (-x-ъ), 1 pl. -s-omъ. The 2 and 3 pl. show the athematic forms -s-te, -s-ę (-š-ę), cf. athematic pres. das-te, dad-ętъ, paralleling the 'athematic' endingless 2 and 3 sg. 3 pl. -e is from *-ent or *-nt, probably the former (ch. II §23).

In the thematic present the paradigm would have presented the following configuration:

vezǫ	*vezǫmъ
*vezi	vezete
veze(tъ)	vezǫ(tъ);

-tъ in the third persons was optional. Beside this thematic paradigm, valid for Leskien's classes I-III, we have the i-verbs, Leskien's class IV.

§19. Kuryłowicz has now shown convincingly (Infl. Cat. 79-84) that the i/ě verbs (cl. IV b), mьnětі go back to the perfect, and that the iteratives and denominatives (cl. IVa, saditі, xvalitі) have modeled their inflexion on the former. (Note that this view eliminates the putative 'half-thematic' type from Balto-Slavic.) The basic form of the paradigm, and the only one continuing a direct inheritance, is the 3 sg.: OCS mьni(tъ) = Lith. mìni, both from IE *m̥n-ei. Only in word-final position can Slavic -i and Lith. -i be equated as *-ei, in itself a striking confirmation of the secondary, segmentable character of OCS -tъ. This equation is particularly welcome, since it accords exactly with the observable restrictions on the verbal root *men-; cf. especially the perfects Lat. meminī and Goth. man munum, as well as Greek μέμονα μέμαμεν, RV 3 du. mamnāte, and OIr. pret. 3 sg. ·ménair indirectly reflecting an earlier *memn-. To these we can now add the testimony of Hittite and Luvian; it is very interesting to note that the corresponding forms belong to the thematic hi-con-

jugation in Hittite, and are thematic in Luvian. The forms are Hitt. 1 sg. memahhe (archaic) 3 sg. mem(m)ai 'says' from reduplicated *memna-. Luvian shows the presence of the -n-, as well as the reduplication, in ipv. 3 sg. mammannaddu 2 pl. mammannaten. The forms are clearly thematic, whether we assume phonetic mamana- or mamna-. Luvian also shows in all likelihood the unreduplicated root, likewise thematic in pret. 1 sg. manaha 3 sg. manata; cf. Laroche, Dict. louv. s.v., and Ivanov, Obšč. sist. 110 for semantic parallels.

§20. It is from this basic 3 sg. form mɐni that the rest of the paradigm is built, according to the mechanism described in ch. II above; by the suffixation of the productive (thematic) endings of the remaining persons to mɐni, reinterpreted as stem mɐni- plus 3 sg. zero-ending. It is probably at this point that the 2 sg. -ši is created, via the insertion of 2 sg. -s(ɐ) from the athematic paradigm (> -š-) between stem mɐni- and 2 sg. ending -i, where it would serve to break the hiatus and preserve the distinctiveness of stem and desinence. Thus

mɐni-o	mɐni-mɐ
mɐni-ši	mɐni-te
mɐni(tɐ)	mɐne(tɐ)

with the same redundant tɐ in the third person.

The subsequent development is the spread of 2 sg. -ši to the thematic paradigm, effected together with a general refection of that paradigm on the basis of the 3 sg.; the same mechanism as above. To the 3 sg. veze, stem + zero ending, are added the desinences 2 sg. -ši, 1 pl. -mъ (and 1 du. -vě), thereby eliminating the inherited distribution of e/o in the thematic paradigm, and yielding the attested OCS forms

vezǫ	vezemъ
vezeši	vezete
veze(tъ)	vezǫ(tъ).

The thematic stem vowel of Slav. 1 pl. vezemъ, just like that of Balt. 2 pl. vẽžate, repeats that of the basic 3 sg. form: Slav. veze, Balt. vẽža.

It is finally to the 3 p. basic forms veze and vezǫ that the athematic ending -tъ of ORuss. jestъ (sutъ) are added, in one limited dialect area aone, and doubtless quite late, witness the widespread preservation of the short forms in early Old Russian texts. The process reminds us both of the earlier introduction of 2 sg. -s- from the athematic paradigm, and of the later enormous spread of 1 sg. -m in South and West Slavic, likewise from the athematic paradigm. As internal reconstruction shows, the equation of ORuss. vezetъ with Skt. vahati, Lat. uehit, and Goth. -wigiþ is 'un mirage de la grammaire comparée'.

§21. Stang has demonstrated, most recently Vgl. Gramm. 310 ff., that a number of Baltic alternate verbs, not corresponding to similar formations in other Indo-European languages, go back to antecedent perfect forms. The clearest evidence is their stative-intransitive function. Such a form is likti (3 sg. liekti) in the sense 'zurückbleiben', cf. the o-vocalism in OPr. polaikt 'bleiben'; one may posit a Baltic perfect stem *laik- comparable with Gk. λέλοιπα (and Goth. laihw). Other cases as well show o-vocalism in Old Prussina, like 1 pl. galbimai, 3 sg. opt. galbsai 'be able', beside e-vocalism and suffix -ē- in Lith. gélbėti 'help'; cf. OPr. 2 sg. waisei 'you know' beside Lith. veizdėti. Thus probably Baltic perfect stems *galb-, *vaid-. OLith. miegti 'sleeps' beside -miñga 'falls asleep' probably goes back to a perfect *maig- : Russ. mgnut', mžit'. Latv. sârgât beside Lith. sérgėti 'watch over' may go back to a perfect stem *sarg-. Similarly OLith. 3 sg. klaisti 'is mistaken' to a *klaid-, álkti 'is hungry'. In all these cases we appear to have an old perfect replaced by a new 'perfecto-present' with the athematic endings -mi -si -ti, and sometimes a change in the root vocalism, to conform to the pattern of the inherited athematic verbs with e-grade like esmi esti pa-velti. Thus *sarg-e(i) with old perfect ending replaced by *sarg-ti with athematic ending, whence serg-ti with e-vocalism as in sérgėti after the type vérteti with the stative suffix ē. Typologically, such a development is quite similar to the tendency to replacement of hi-conjugation by mi-conjugation forms in Hittite.

These formations are archaic; the high degree of refashioning which they have undergone is a better indication of antiquity than the straightforward perfects or preterites of other languages, notably Greek and Germanic. Cf. especially N. Van Brock, RHA 75.119-165 (1964).

In Slavic, the old perfect appears unchanged only in the isolated OCS 1 sg. vědě 'I know' < *u̯oid-ai. In Slavic, as shown by van Wijk, Stud. Balt. 3.134 ff., Stang, Verbum 24, 153, Vgl. Gram. 314-15, and Vaillant RESL 14.31 ff., BSL 57.52 ff., we have also a group of verbs in Leskien's class IVb which show radical o-vocalism and a stative intransitive value, and are to be derived from Indo-European perfects. These include OCS bolitъ 'is sick', bojitъ se 'is afraid' (cf. perf. δɛδ́ια < δɛδFo̯ι̯α), goritъ 'burns', politъ 'flames', perhaps xoštetъ 'wishes', and certainly (though not an i/ě verb) možetъ 'can' (1 sg. mogǫ), cf. Goth. perfecto-present mag. That the i/ě inflexion of these verbs is not original is shown by the very archaic participle gorǫšte (beside expected gorę̌šte) to gorěti. On the other hand the i/ě inflexion does probably go back to the common Balto-Slavic period, since it recurs in Lith. gãri 'burns', inf. garė́ti, the only Baltic verb corresponding in inflexion and root vocalism to the Slavic type. What is basic is the addition of the stative suffix -ē-, as in the Baltic type sérgėti, gélbėti noted above. For the formation of the present paradigm (gorjo goritъ, garìu gãri) cf. the discussion of mьnjǫ mьnitъ above.

Another original perfect stem *olk- probably underlies

OCS al(ę)čǫ (lačǫ) alkati 'be hungry', beside Lith. álkti; cf. especially the passive pple. lakomъ 'hungry', which does not show the suffixes *-ie-/-io- or -ā-.

Following van Wijk and Stang, we may also see traces of archaic perfects characterized by an enlargement -u- in the two Lithuanian verbs stóvi 'steht' (stovėti) and dėvi 'trägt [Kleider]' (dėvėti), cf. Ved. pf. tastháu and dadháu. For the u-element cf. ch. III § 8. In the latter verb it recurs in Anatolian: Luv. ipv. 3 pl. duwandu 'let them put', pret. 3 sg. duwatta, Hier. Luv. pret. 1 sg. tuwaha, 3 sg. tuwata, ipv. 3 sg. tuwatu.

Such formations attest the former existence in Balto-Slavic of full-grade perfects with o-vocalism. Another group of verbs attests the existence of perfects with zero-grade vocalism; the type *m̥nei > OCS mьni(tę), Lith. mìni noted above, following Kuryłowicz.

Other Common Balto-Slavic zero-grade formations are *bhudh-ei (cf. Skt. buhudhé) in OCS bъdi(-tę) 'wacht' = Lith. budi; *smṛd-ei in OCS smrъdi(-tę) 'stinkt' = Lith. smìrdi. Others, though confined to one of the other group, may still be old, e.g. OCS drъži(-tę) 'hält', Lith. tùri 'hat' (samprasāraṇa; cf. tvérti 'greifen').

From these indications it is clear that there were basically two channels for the restructuring of the Indo-European perfect in Balto-Slavic.

In one type the perfect was remade to an athematic present with the endings *-mi -si -ti, and often e-vocalism, as attested in Old Lithuanian (type liekti); subsequently it was assimilated

to the productive -e/o- class (like OCS mogǫ) or -i̯e/i̯o- class (like OCS aiⁿčo/laǰǫ), in common with other original athematic presents.

In the other type the perfect was directly remade to a new so-called half-thematic present, by a reinterpretation of the old 3 sg. form, from which an entirely new present paradigm is created. Outside the present, the root receives the stative suffix -ē-, e.g. inf. minė́ti mi̯nė́ti, garė́ti gorė́ti. The same suffix is also occasionally added to the above (athematic) type, as in gélbė̀ti, sérgė̀ti.

The second type, i/ē- verbs derived from original 3 sg. perfects, show both the o-grade and the zero-grade in the root, depending on the individual case; gãri gerì[rx] < *gʷhor-ei beside mìni mi̯nì[rx] < *mn̥-ei. This suggests that we should postulate an original Balto-Slavic perfect with paradigmatic apophony, thus continuing the Indo-European type, without reduplication *mon-/*mn̥- cf. Gk. (μέ)μονα (μέ)μαμεν, Goth. man munum. Only the 1 sg. *-ai and 3 sg. *-ei can be reconstructed for the paradigm of the Balto-Slavic perfect, cf. OCS vědě (Balt. athematic -mai < -m + ai) and OCS -i(tь) : Lith. -i. But an original alternation of the type 1 sg. *gor-ai/1 pl. *gr̥-mo, *mon-ai/*mn̥-mo is plausible.

In some verbs the strong grade was generalized, whereas in others it was the weak grade, for reasons obscure; one may observe a parallel variation in the root form chosen, in the steady process of replacement of strong verbs by weak verbs in

the later Germanic languages, particularly English. The elimination of inherited apophonic paradigms in Baltic and Slavic may be observed also in the nominal system, where such an old root noun as *kḗrd gen. *krdés 'heart', indirectly attested in OPruss. nom. sg. seyr and OLith. (Daukša, Szyrwid) gen. sg. szirdés, has generalized the weak grade in Lith. širdis, OCS srъdьce, but preserved the strong grade in Latv. sẽrde 'marrow, heart of wood', OCS sr̃da 'middle', via a lexical differentiation.

XVI. The thematic optative

§1. Indo-European languages show evidence for three separate suffixes of the optative mood. The first shows paradigmatic ablaut, and is formed on the zero-grade of athematically inflected roots: *-i̯ē/ī-, exemplified by OLat. 2 sg. siēs/2 pl. sītis. The second (cf. ch. XII §14) is likewise formed directly on the root, but has an invariant form: *-ā-. It is found as a modal suffix only in Italic and Celtic, and may be exemplified by OLat. 3 sg. aduenat, 2 sg. attigās, and OIr. ·bia to benaid 'smites'. Whether this form was aboriginally an optative suffix is doubtful, in view of its probable connection with the Balto-Slavic and Tocharian preterite sign -ā-. The third has a likewise invariant form, and provides the regular form of the optative in the thematic conjugation. The suffix has the form *-oi-; it has been traditionally analyzed in comparative grammar as -o + ī-, the o-grade of the thematic vowel, plus the zero-grade of the athematic optative. For Meillet's view see below.

These three forms of the optative have in fact partially overlapping distribution in the attested languages. Consider the root 'to come, go', where the root athematic form *g^{w}(e)m- appears as an aorist or preterite in a variety of Indo-European languages, including Indo-Iranian, Armenian, and Tocharian. The same root, in its

'aorist' form, is found suffixed by all three optative suffixes:

*g^{w}em-ī̆ē-	(Ved. gamyā́s, Av. jamyā̆t)
g^{w}em-ā-	(OLat. ad-uenat, with dental nasal for labial)
g^{w}em-oi-	(Ved. gaméma)

It is the last of these three types which will concern us here.

§2. In conformity with Meillet's principle, that we must reconstruct on the basis of exceptions not of regular forms, it would be methodologically wrong to proceed from the banal type of thematic optative. Skt. bháret, Gk. φέροι, and Goth. bairai are each predictable in its own synchronic system, and as such no guarantee of an Indo-European *bheroit. Far more promising are the thematic optatives of the type gaméma, bhujema, formed to otherwise generally athematic roots, usually aorist. The existence of these forms and their peculiar nature was first noted by Wackernagel, Vermischte Beitr. 49 (1897) [= Kl. Schr. 801]. Since then they have been commented on in particular by Meillet (BSL 32.194-203 [1931]) and Renou (BSL 41.5-17 [1939]), and most recently discussed by Cardona, Them. Aor. 29 ff.

It is a great merit of Cardona's work to point out for the first time two significant facts: a) that this formation "has its maximum occurrence in the first plural active", with 12 instances as against 7 first singulars, 6 third singulars, and 1 second singular in the Vedic texts; and b) that an abnormally high percentage of these first plurals occur in the trochaic cadence of triṣṭubh lines (- ∪ – ∪), and that many occurrences outside the cadence are variants on formulae where the verb is in the cadence.

§3. To take up the last point first: Cardona suggests that these were "innovated forms frequently used because of their metrical convenience" (p. 32). This is to misconstrue the nature of oral poetry. For it is not that metrically convenient innovatory forms were utilized in the cadence, but rather that archaic forms tended to be preserved intact in the fixed cadence where it was metrically not possible to alter them in a more "modern" direction. Examples of this are legion in the Homeric poems; I point out merely a perhaps less evident one.

Since the classical and striking comparison by Adalbert Kuhn we have known that Homeric κλέος ἄφθιτον and Vedic <u>ákṣiti śrávaḥ</u> together recover an Indo-European poetic phrase. I submit that the reason for the preservation of the phrase in the two traditions was

precisely that it occurred in the cadence of the verse line in each. So in the Rig-Veda dádhāno ákṣiti śrávaḥ 9.66.7c (-/⏑-⏑⏑, gāyatrī) and the metrically identical sá dhatte ákṣiti śrávah 8.103.5b = 1.40.4b in satobṛhatī.

It is the Aeolic metres which preserve most faithfully the Indo-European metrical tradition in Greek; and in Sappho 44.4 Lobel-Page = 55 Diehl, the cadence is formed by κλέος ἄφθιτον, with the same iambic ⏑/⏑-⏑⏑. The Vedic satobṛhatī can have the cadence ⏑/⏑-⏑⏑ as well as the -/⏑-⏑⏑ above, cf. táva rātíbhir 8.19.29a; similarly the gāyatrī. An absolute final κλέος ἄφθιτον was excluded in the hexameter, but we may note that the phrase is in penultimate position in I 413 ἀτὰρ κλέος ἄφθιτον ἔσται, and cf. ἄφθιτον αἰεί at verse end in B 46, 186, Ξ 238, with the variant ἄφθιτα αἰεί N 22.

The characteristic presence of such forms as gaméma, bhujema in the cadence of the verse line should be taken as suggesting that they are archaic forms, rather than innovations. The 1 sg. forms like gameyam are metrically identical to the 1 pl. in verse final (cadence) position; and gameyam likewise forms the cadence in its only RV attestation, 1.158.3 (dṛśeyam and saneyam, the other two RV 1 sg. forms, do not). But there is a metrical correlation with the very striking preponderance of first person (sg. and pl.) forms in this class: 19 of the 26 instances of thematic aorist optatives catalogued by Cardona. This metrical correlation is an index of

linguistic archaism.

§4. There is a third notable peculiarity about these thematic optative forms to verbs with root aorist. Though the ending is ostensibly active, -emma, -eyam, the formation seems to be indifferent as to voice; it is found not only with verbs which are nearly always active, but also commonly with verbs which are nearly always middle. Thematic aorists beside predominantly active aorists: bhideyam (AV) : abhet, śakema : śaktam. Thematic aorists beside predominantly middle aorists: aśema : ā́ṣṭa, 3 pl. ā́śata, and optatives aśī́mahi, aśiya. (The SV has aśemahi, which looks like a formal reinforcement of the medial function of RV aśema.) Compare also Lat. mid. nancīscor (OLat. 3 sg. nancitor). We have dr̥śeyam, dr̥śema (AV) : adr̥śran, °ram. The root gam furnishes both middle and active forms, but the compound sám gam is virtually always middle; we have also sám gamema.

The root bhuj deserves special notice. Aside from bhujema, the only active forms in the RV are given by Grassman as sambhújam 2.1.4 and bhojam 2.28.9. The former is best taken as a noun in the accusative, cf. Geldner ad loc. And in bhojam we have a curious coinage which is built directly on bhujema. Cardona has shown (op. cit. 32) that bhujema outside the cadence in 7.52.2 bhujema anyájātam énas is simply a variant of a line where it is in the

cadence: 6.51.7 mā́ va éno anyákr̥tam bhujema 'may we not atone for the sins committed by others'. The antiquity of such a line is borne out by the fact that it is metrically a perfect Sapphic hendecasyllabic. Note also, on the syntactic side, that we have here the only instance in Vedic of an optative with mā́ (Whitney §579b); mā́ bhujema is in a certain sense an 'injunctive of the optative', and by that fact doubly archaic. In 2.28.9 mā́ ahám rājann anyákr̥tena bhojam 'may I not, O King, atone for [the sins] committed by others' we have another variant of the same line, but with a metathesis not of words (anyákr̥tam bhujema ⇒ bhujema anyájātam) but of endings: [anyákr̥t] -am [bhuj] -ema ⇒ [anyákr̥t] -ena [bhoj] -am.

The form bhojam, with guna metrically required, is thus the product of a remarkably ancient pun, made possible by the identity or quasi-identity of nominal (-am, -ena) and verbal (-am, -ema) desinences. It cannot be considered the Rig-Vedic root aorist of bhuj (Cardona 29). By the same token, the anomalous construction of active bhuj taking the instrumental (rather than the accusative) disappears from Vedic syntax as a natural attested type. For the meaning and syntax of bhuj- in the two voices see Benveniste, Titres et noms propres en iranien ancien 112, citing Minard, Trois énigmes, II, n. 596a.

Indeed the root bhuj probably did not form an aorist at all.

For the bhójate of 1.78.5, taken as aorist subjunctive by Neisser, BB 7.222 and Cardona 124 n.5, is in its one occurrence best taken as either present (so Grassmann) or better as an 'éventuel' in Renou's sense, BSL 33.5.

§5. Cardona's list is restricted to thematic aorist optatives. But as Renou has shown in several places, these forms cannot be considered apart from other thematic formations, in particular the type tudáti. Consider the verb huvé 'calls', pret. ah(u)vat, with the archaic middle ending *-o(i). Whether huvé is a sixth class (tudáti) present, with Grassmann and (queried) Whitney, or more likely a root athematic present, is not of moment here. Its optative is in any case thematic. The optative of this stem occurs in the 1 sg. middle huvéya (1x); but the corresponding 1 pl., attested no less than 32 times in the Rig-Veda, frequently in the metrical cadence, and indistinguishable in diathesis from huvéya, is the ostensibly 'active' huvéma.

Another form which could be added to Cardona's list is the RV hapax taruṣema 'may we overcome', beside the middles táruṣante, taruṣanta. Like gaméma, bhujema, this thematic optative is a 1 pl., and found in the cadence of a triṣṭubh: 7.48.2. taruṣema vṛtrám

ᵕᵕ/-ᵕ-ᵕ. The Vedic form taru-ṣ(a)- is itself an archaism with clear cognates in Hittite, especially ipv. tarḫu-du KBo IV 2 I 54 'let it overcome', and the adj. tarḫu-ili 'heroic, strong'; cf. Friedrich, Heth. Gesetze 99, HWb. Erg. 2.24, and especially Ivanov, Obšč. sist. 106.

The thematic s-suffix to a stem ending in -u- in Ved. taru-ṣa- recalls Hitt. tekku-šša- 'show', archaic 3 sg. pret, tekkušše; cf. Kronasser, Etym. 506. I suggest thus an analysis *tek-u-se/o- parallel to *terə̯-u-se/o- of Ved. taruṣa-, and would further see the root *tek- in Gk. τέκ-μαρ, τέκ-μωρ. There is no morphological justification whatsoever for the traditional equation of Hitt. tekkušša- with the s-aorists Gk. ἔδειξα, Lat. dīxī; the more so since the s-aorist is late in TeRT- roots, as shown by Narten, Sigm. Aor. 80.

§6. It is clear from the evidence of Hittite, Greek, and Indo-Iranian that the formation of the desinences of the plural in the first and second persons of the middle voice was not entirely completed in Indo-European before the separation of the dialects. The attested forms cannot be reduced to a single prototype, and represent creations of the individual languages, posterior to the period of community. This suggests that the endings 1 pl. *-me/o(-)

and 2 pl. *(t)e(-) were in Indo-European indifferently active and middle. The absence of characteristic endings for these two persons in the perfect is to be explained in this fashion, and the fact that the Hittite hi- and mi- conjugations are identical in the plural is similarly a faithful reflex of the earlier situation. It is fully in accord with such a hypothesis that we find the characteristic thematic aorist 1 pl. in -ema, an archaism preserved in particular metrical conditions, corresponding both to active and to mediopassive inflexion.

§7. For Cardona (Op. cit. 30), in principle following Bartholomae KZ 29.277, these thematic optatives of the type gaméma result from the creation of thematic stems from athematic ones via the channel of ambiguous forms: e.g., 1 pl. gamāma from gam- is reinterpreted as coming from a gama-, on the basis of which a new optative gaméma replaces an older *gamyáma, (cf. gamyás). The difficulty is that gaméma (etc.) shows every sign of being an old form, on a much earlier chronological level than the evident expansion of the thematic aorist at the expense of the root aorist (Whitney §847) in the historical period. Furthermore *gamyáma is an entirely regular form, predictable in its own synchronic system; there is no good reason why it should have been replaced. While

Cardona is surely correct in his basic thesis that the thematic aorist is not a category of Indo-European date, the optative type gaméma is a separate problem.

More promising is the general conclusion of Renou, loc. cit., who suggested a connection of gaméma with the thematic 'eventualis', while maintaining that these optatives were isolated from the indicatives. Meillet showed (BSL 32.199 [1931]) that the 'thematic' optative suffix was an unsegmentable -oi-, and not -o-ī; this considerably weakens the traditional further derivation of -oi- from -o + -ī- (zero-grade of -iē-), most recently maintained by Kuryłowicz Infl. Cat. 141-2. Kuryłowicz's explanation ignores gaméma etc., precisely the oldest type of thematic optative; his argument would have to be a proportion dviṣ-ma : dviṣ-ī-ma = (a)drśā-ma : drśa-ī-ma (> drśema), which breaks down on grounds of the lateness (Brahmanas) of the thematic stem drśa-. Hence his explanation must be rejected. We have three separate optative suffixes in Indo-European, all added directly to the root: *-iē/ī-, *-ā-, and *-oi-.

§8. The Rig-Vedic form duhīyát is evidence that the optative took the older set of desinences with 3 sg. *-o. The 3 sg. mid. -ī-ta represents a later form, and no analogical model could have produced -īya[t] from -īta. Further evidence for the utilization of

these archaic endings in the optative is the 3 pl. mid. -eran (athem. -iran), with the same ending as indicative adr̥śran and the forms reflecting directly or indirectly an earlier 3 pl. *-ro.

We have seen that the thematic indicative paradigm in most Indo-European languages incorporates forms which at the outset were those associated with what appears in the later languages as the middle voice. The same is true of the thematic optative.

Nowhere is this so clear as the 1 sg. optative. It has virtually always been assumed that the 1 sg. Skt. -eyam and Gk. (Arcad.) -οιμι in εξελαυνοιμα (Schw. 665 C 30) reflected a form with secondary ending *-m̥; the otherwise generally secondary endings of the optative dictated this eminently 'structural' reconstruction of Brugmann's, to which the discovery of the Greek dialect form brought welcome corroboration and vindication. Yet at the same time it was also recognized that the form in both languages was not phonologically regular if from *-oi̯-m̥, which might be expected to yield Skt. *-aya[m] (the -m explained as a separate analogy) and Gk. *-οα. To account for this it was variously suggested that one had to deal with (expressive) gemination, *-oi̯im̥, or paradigmatic analogy after *-oi[t], etc.

The correct explanation was seen by Hirt, Idg. Gram. 4.289, who made the comparison between Gk. -οιμι and Ved. 1 sg. mid. -eya, not 1 sg. act. -eyam. It can be assumed in any case that the active -eyam is a replacement of *-eya in the first instance, just

as impf. 1 sg. RV āsam 'I was' (OP āham) replaced *āsa : Hom. ἦα < *ē̆s-m̥ ; the replacement of Old Attic ἦν (contracted from ἦα) by ἦν is a recapitulation of the process which was generalized in Indo-Iranian. It is furthermore probable that Skt. -eya and Gk. -οιᾱ are in fact regular developments of the sequence of suffix-morpheme -oi- and 1 sg. desinence *-h₂o; *-oih₂o > Gk. -οιᾱ, Ved. -eya in terms of the formation of the paradigm, on which see below. It is a morphological reflex, beside the phonological reflex of the same sequence in 1 sg. Ved. bibhaya, Hom. δείδω = *δεϝιδοᾱ, *δεδϝοᾱ.

The 1 sg. opt. thus has almost exactly the same origin as the 1 sg. indicative in *-ō < -o-h₂o; like the latter, it is an originally 'middle' form which has spread to an 'active' paradigm. The archaic 1 pl. (and 1 sg.) forms from Vedic noted above, equally at home in middle and active paradigms, are in full accord with this pattern.

§9. Other forms in other languages lend credence to the postulation of such a paradigm. In accord with the paradigmatic patterns observed heretofore, to a 1 sg. *-oi-h₂o would correspond two possible 2 sg. forms, *-oi-th₂o with overt ending, and *-oi with zero-ending; the 3 sg. would have zero, *-oi. Thus in the singular,

*-oi-ə̯o or *-oi-ə̯o cf.	*-o-ə̯o (Hitt., Toch.) or *-o-ə̯o (Gk., Balto-Slav.)		
*-oi-tə̯o	*-oi	*-e-tə̯o	*-e
*-oi	*-oi	*-e	*-e

Every one of these forms is attested in the historical dialects. The 2 sg. with overt form underlies Skt. -ethās < -etha + as; it has also been suggested by Krause (Jour. of Celt. Stud. 1.24 ff. [1949]) to explain the Mid. Welsh 2 sg. imperfect in -ut, but the isolation of the latter form in its own paradigm makes this less cogent. The Old Lithuanian imperative in -i, refl. -ie-s directly reflects the endingless 2 sg. *-oi. In Slavic we may derive the imperatives nes-i nes-ěmъ nes-ěte from a similar paradigm with 2 sg. *-oi, 1 pl. *-oi-mo, 2 pl. -oi-te; the 1 pl. opt. huvéma 'let us call' discussed above corresponds exactly to OCS zověmъ . The 3 sg. *-oi with zero-ending is virtually attested in the opt. śáyet, occurring three times in the MS (Wackernagel, Kl. Schr. 499), which has a -t added for clarification of the 3 sg. function of the form just as in aśaya[t] and opt. duhīya[t]. Finally the 3 pl. middle in Indic shows the same archaic ending -ran < *-ro which we have in adr̥śran, aduhran. Beside these forms the extension of the r-ending to the 3 pl. active optative, Ved. syúr : hyārə (but Gāth. h'yən) is clearly secondary, cf. Kuryłowicz, Infl. Cat. 60-61.

The resultant paradigm of the singular and plural optative is then

-oi-o̯o	-oi-me/o
-oi(-to̯o)	-oi-te
-oi	-oi-ro

a paradigm identical in character with the earliest one of both the thematic conjugation and the perfect.

As in the thematic indicative conjugation, this paradigm was undifferentiated as to 'voice'; the same forms in the indicative appear both as middles and as actives in the later languages, and the indifferent status as to voice of the Rig-Vedic forms attests the same for the optative. The impetus to the creation of the diathesis of voice (genera verbi) in the optative was as in the indicative the affectation of the forms of 2 and 3 sg., showing suffix -oi- and desinence zero, with the productive endings of the mi-conjugation : *-oi-s *-oi-t (Skt. -es -et, Gk. -οις -οι).

Such a development is part of the tendency in Indo-European to replace a zero-ending with an overt ending, which is a counter-tendency to that of creating zero-endings for functional zero-forms. The relatively high 'mobility' of paradigmatic structures in Indo-European is ultimately attributable in large measure to the tension

between these two opposing principles.

§10. In the optative we have a morphological split, as a result of this suffixation, into two paradigms:

sg.	"active"	"middle"
	-oi-o̯	-oi-o̯
	-oi-s	-oi(-to̯)
	-oi-t	-oi

The active paradigm was continued intact in Greek (Arcad.) -οιᾰ -οις -οι, and probably Indo-Iranian *-ai(h)a *-ais *-ait, Skt. -eya -es -et; the -m was subsequently added to the 1 sg. form in Indo-Iranian to relate it unambiguously to the basic pattern of endings -m(i) -s(i) -t(i), just as in the case of the athematic imperfect and thematic aorist.

Similarly in most Greek dialects, -οιᾰ was replaced by -οιμι. The immediate model for the creation of -οιμι was the middle -οιμᾱν (Att.-Ion. -οιμην), which coexists with -οιᾰ in Arcadian, and is therefore older than -οιμι, though a Greek innovation. The text reads (Schwyzer 665 c): ουδ' αν αυτσταιμαν απυ τοις Ερχομενιοις ουποτε ~ ουδ' αν εξελαυνοιᾰ τος Ευαιανιος ουποτε; both cases

in the oaths sworn by the two parties to the treaty of confederation. It is to the fact that -οιϝα occurs in the solemn archaic language of an oath that we owe its preservation.

§11. In the middle, 1 sg. *-oi-ḫo was preserved intact in Indo-Iranian, but remade to -οι-μᾱν in Common Greek, perhaps via *-οι-α → *-οι-μ-α, cf. the replacement of primary *-αι by -μ-αι. In Indic, the 2 sg. generalized the form with overt ending *-oi-tḫo, by polarization from the active, and the resultant *-etha was then further suffixed by 2 sg. active thematic -as to yield -ethās. One is tempted to explain Gk. 1 sg. -οι-μᾱν on this basis as *-οι-μα + 1 sg. active thematic -ον, with a prehistoric contraction -ma + on > -mān.

The 3 sg. middle *-oi replaced the zero-ending with the new ending *-to, whence the -oi-to of Greek and Indo-Iranian; Greek and Iranian independently created a 2 sg. *-oi-so (Gk. -οιο, Av. -aēšа) on the proportion act. -oit : mid. -oito = act. -ois : mid. -oiso (replacing *-oitha).

In the plural the old forms of the first two persons were preserved in the new active, and new middle forms created, variable in the several dialects. The 3 pl. *-oi-ro was preserved in Indic, in the middle suffixed by -n(t) : -eran, and (minus the -o, cf. 3 sg.

mid. -to : act. -t) extended to the active. In Greek and Iranian the -ro ending was given up entirely (if ever present at all in Greek), and the normal 3 pl. ending -nt, -nto generalized.

The pattern of development and ulterior history of the thematic optative is thus virtually identical to that of the thematic aorist indicative; it is scarcely surprising that the florescence of these two categories is greatest in the same dialect area of Indo-European, Greek and Indo-Iranian.

§12. This thematic optative formation, in the earliest texts built as well on otherwise athematic roots both present and aorist, is evidently connected with the other archaic thematic types we have examined, and its genesis must be explained in the same context.

The structure of the original optative paradigm indicates that it is built on the 3 sg., interpreted as containing a zero ending; the principle may be considered as established. The paradigm of the optative may be derived historically in the same way. The starting point is a verb form with primary 3 sg. desinence -oi. The structure root + desinence -oi is reinterpreted as root + suffix -oi + desinence zero in the 3 sg., whence the suffixation of overt desinences in the other persons. The process may be illustrated by attested forms in Vedic, though it began already in Indo-European proper:

huv-é → huv-e-Ø (whence huv-éy-a, huv-é-ma)

vid-é → vid-e-Ø (whence vid-e-ma)

and especially

śáy-e → śay-e-Ø

which is attested in MS śáye[t]; whence Kāṭh. śay-ey-a (Wackernagel, Kl. Schr. 500 n. 1).

The genesis of the thematic optative is thus exactly parallel to that of the Vedic precative, but on an earlier chronological level: cf. 3 sg. bhū-yā-s → bhū-yās-Ø, whence bhū-yās-ma, as shown in Celtic Vb. 90-92.

The motivation for the morphological reinterpretation proposed is to be seen as the restriction to a modal value of an earlier indicative form which was in the process of being ousted from the system by the encroachment of new forms: the replacement of 3 sg. *-oi by *-toi, *-etoi. This process was well underway in the period of the Indo-European community, but completely only in the separate dialects. In this fashion we may account for the thematic optative as an old indicative déclassé; its origin is entirely similar to the history of the Indo-European subjunctive in -e/o-, as sketched by Kuryłowicz, Apophonie 28 and Infl. Cat. IV.

§13. We have seen earlier that the forms ádat and práti dhat, perhaps vyàsthat, entitle us to posit 3 sg. forms *dậo and *dhậo, perhaps *stậo. The corresponding forms with primary ending (cf. *ḱe̯oi ~ *ḱêo) would be *dậoi *dhậoi *stậoi. It is possible finally that these forms underly the peculiar aorist optatives deyām, dheyām, úpa stheyama, which Renou Gramm. Véd. §340 has termed a 'compromise' between the -yā- and -e- optatives. The forms are rare and aberrant in the Rig-Veda : deyām (1x) is scanned - ◡ ◡ (8.1.5), dheyām (2x) both - ◡ - (5.64.4) and - ◡ (10.52.5) úpa stheyama, scanned normally, occurs three times (6.47.8, 7.95.5, 8.27.20), but always in verse initial position, and must be a formulaic expression. Greek δοίην, θείην, σταίην probably admit of the same explanation, but have further undergone the same reshaping as δοτός, θετός, στατός.

§14. Another obscure optative form, likewise built on a root with final long vowel (yā) is RV yeṣam, occurring in the phrase aśvíva tā́ṁ áti yeṣam 'may I go unto them like a horseman'. (2.27.16). The form is unique in the Rig-Veda, though a few similar instances show up in the later language; cf. Whitney §894c. RV jeṣam has also been included here, cf. Cardona, Lg. 41.12 n. 16 (1965), with references. The form was clearly recognized as an optative by

Renou, BSL 32.20 n.1, who related it to the autonomous optatives of the ganema type, but as an "optative in 'es'", without attempting an explanation. Cf. also Gr. ved. §344 note.

Yet the form can be explained, as a sort of 'thematic precative'. From the study of T. Burrow in Asiatica (Festschrift Weller) 35-42, and my Celtic Verb 90 ff., it is clear that the Indo-Iranian athematic aorist optative had an archaic ending *-s in the 3 sg., -yā-s, which was reinterpreted as part of the suffix and extended throughout the paradigm, to form the 'precative', with 1 sg. -yās-am. I suggest that the same 3 sg. ending -s was affixed to a thematic optative form *i̯oi (*i̯ə-oi, like *də-oi, *dhə-oi), yielding *i̯ois, Indic *yes, and that to this was built a 1 sg. yes-am exactly like precative 1 sg. -yās-am to 3 sg. -yās. The unique example of a 3 sg. of this "es-optative" given by Whitney §894c is MBh. set; we may either regard this as a replacement of *ses like 3 sg. prec. -yāt for earlier -yās, or else, since Whitney's Roots also gives a 1 sg. optative seyam for MBh., regard set simply as a normal autonomous thematic optative.

There is evidence outside Indic for the base i̯oi postulated here. Such a form of the root *i̯ā- (*i̯oə-) is to be segmented *i(ə)-oi, with primary ending; the corresponding secondary ending would be *i(ə)-o. It is exactly parallel to *d(ə)-o from the root *dō- (*doə-). As we have shown earlier, *d(ə)-o is attested both

in Vedic á-da[t] and in Hitt. 3 sg. mid. da-tta; it is therefore legitimate to recognize *i(ə)-o in the Hitt. 3 sg. mid. iya-tta 'goes, marches' : *i(ə)-o + to. The same form *i(ə)-oi finally underlies the Tocharian imperfects B yai A ye-ṣ, as discussed in ch. XIV §§6-7.